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September 1940

No. 526



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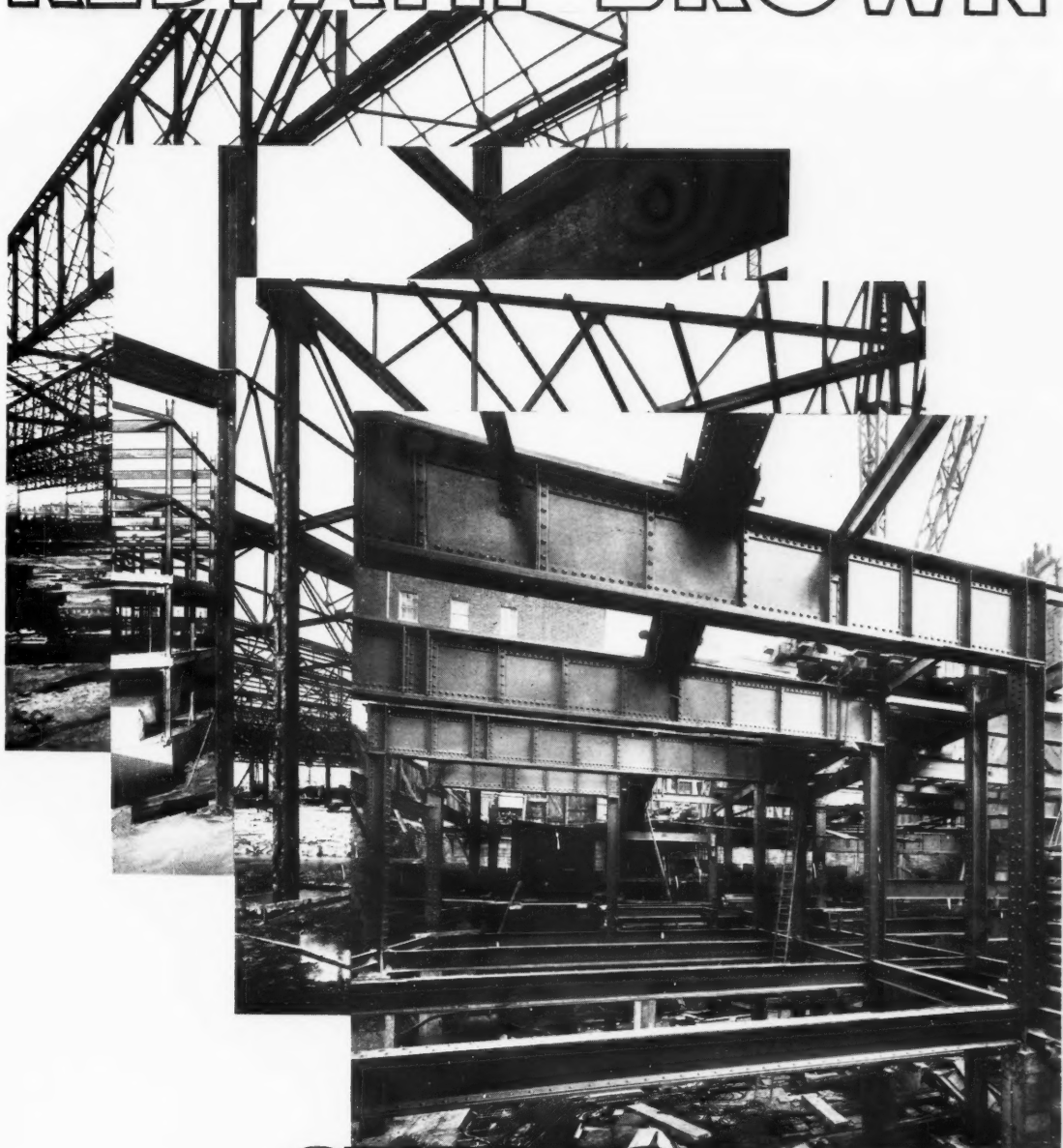
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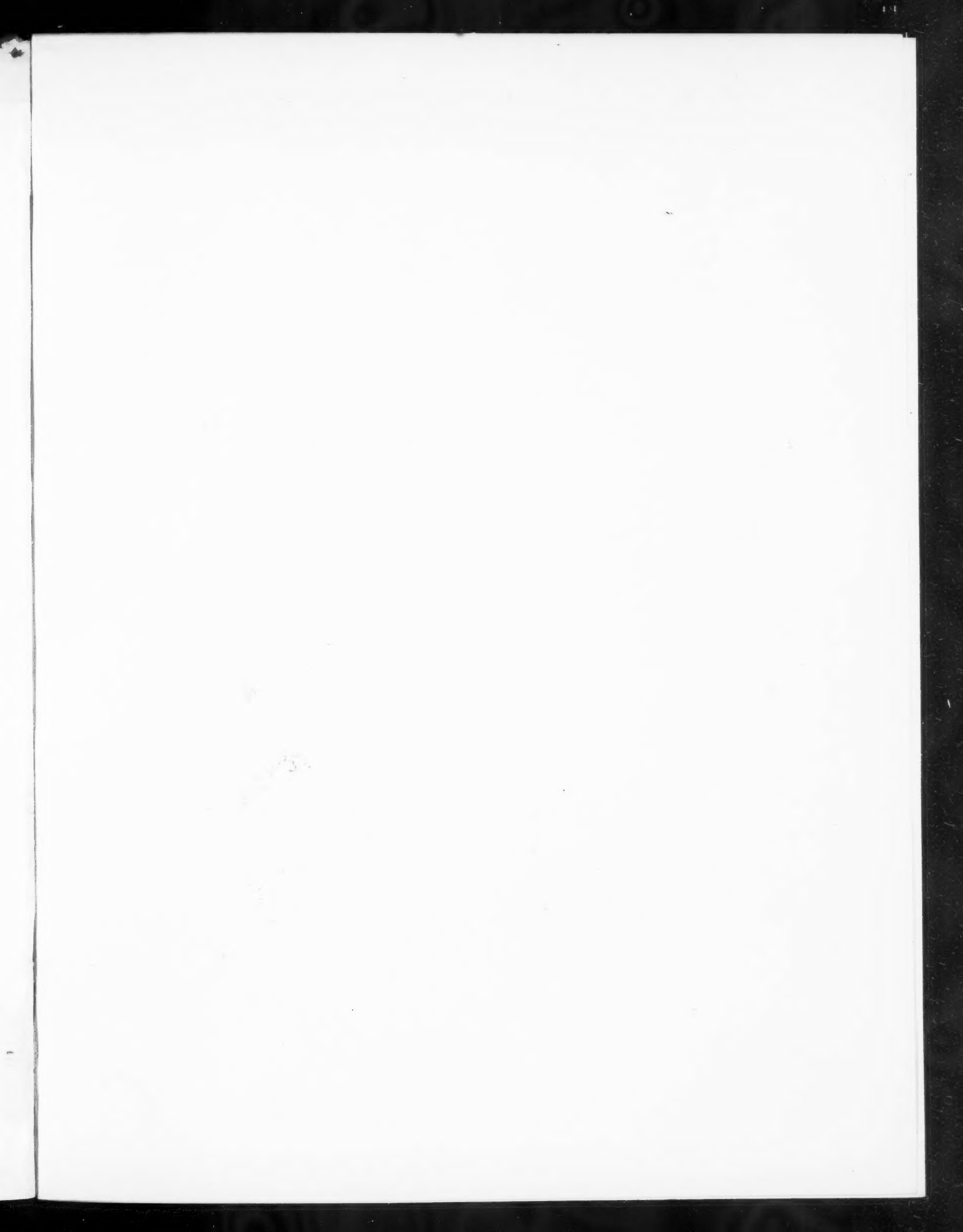
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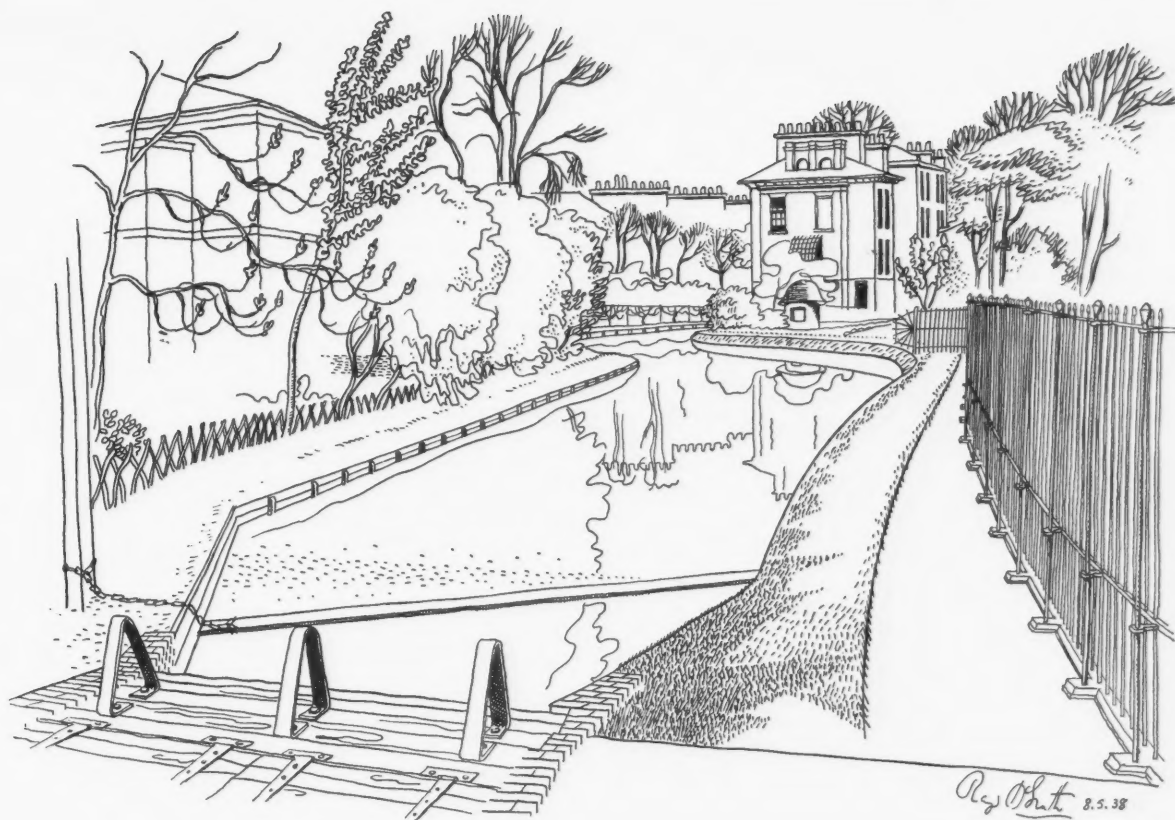
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The market town of Louth in north Lincolnshire is notable for the number of fine eighteenth century and early nineteenth century houses that stand close together near the parish church. These have less the character of town houses, such as are commonly found in situations of this sort—though not often in such large numbers—than that of country mansions, for they are of large size and each is isolated in its own grounds. Their presence is explained by the survival until quite recent years of an unusual practice—possibly feudal in origin—whereby the rectors or vicars of surrounding parishes, instead of dwelling each amongst his own

flock, all had their residences in the market town, forming this sophisticated colony in keeping with the comfortable nature of their livings. An impressive ceremony was enacted every Sunday morning when they all assembled, canonically attired and each in his own carriage, and drove off in procession to disperse outside the town to their various village churches. This weekly occasion was known locally as “the flight of the rooks.” Above is the entrance front of one of the houses: a unique design with its elegant double staircase and its stucco pillars, painted pale blue, supporting the two tall bays.



THE NEW RIVER

By Raymond McGrath

WILLIAM MATTHEWS prefaces his *Hydraulia*, an account of the water works of London in 1835, with the remark: "As good water is the most simple, common and necessary aliment of the animal creation, and especially of mankind, the means of procuring it have ever occasioned a proportionate degree of solicitude." Even in the 19th century water works were front page news. In the reign of Queen Elizabeth London was obtaining its water from streams, springs and wells and the still limpid Thames. At various points within and without the City there were conduit-houses, provided with storage cisterns from which water could be drawn by water-carriers. Only a few favoured persons had obtained the permission of the Corporation to pipe their mansions with a small "quill" of water from the conduits. And as the City grew, as the wells became polluted and the streams and Thames less limpid, Londoners were obliged to "seek sweet waters abroad."

In 1603 Hugh Myddelton was elected by his native Denbigh to serve in the first parliament summoned by James I. Described as a "cittizen and Gouldsmythe of London, and one of the Merchant Adventurers of England," he was a man of uncommon enterprise and was soon preoccupied with the problem of London's water supply. Parliament conferred the necessary powers to bring a running stream to the metropolis but no one could be found to undertake so great a task. "The matter," said Stowe, "had been well-mentioned though little minded, long debated but never concluded, till courage and resolution lovingly shook hands together, as it appears, in the soule of this no way to be daunted, well-minded gentleman." The New River was the stream which Myddelton was to conduct to its basin at Clerkenwell and for three centuries this man-made river has continued, with unappreciated constancy, in the service of a casual metropolis.

On his pedestal at Islington Green, less than a mile

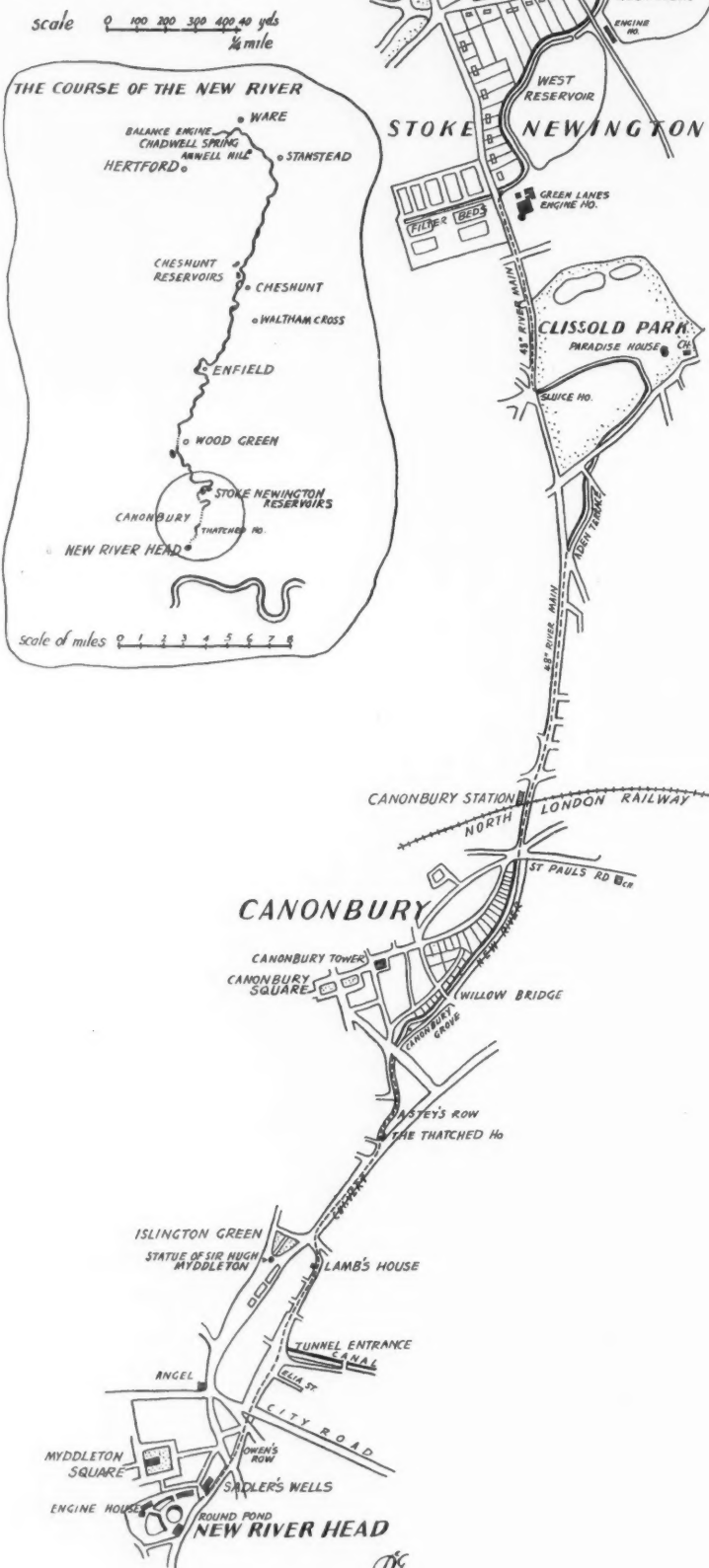
Sir Hugh Myddelton, to whose enterprise the planning of the New River between the years 1609-1613 was due, from an engraving in Smiles' "Lives of the Engineers." He is commemorated by a statue at Islington Green, and by the square named after him, but his best monument is the River itself, still one of the principal sources of London's water.



from King's Cross, stands Sir Hugh Myddelton, Baronet, born 1555, died 1631 "whose successful care, assisted by the patronage of his King, conveyed this stream to London." Imagine what a piece of engineering that journey presented. Collecting the waters of the River Lea and the chalky spring of Chadwell, in the county of Hertford, the New River flows thence to its ultimate basin at Clerkenwell—a distance of 27 miles, reduced from the original meanderings of near 40. Myddelton began the work in 1609 and Howe in his *Annales* describes how "the land over which the stream was to pass was in some places oozy and muddy, in other places extreame hard and rocky, where he was constrained to cut his trench thirtie foot deep, and in divers other low and uncertain grounds compelled to add thereto a second strength by force of art." Private rights, as so often in our day, were soon outraged. Landowners and tenants petitioned parliament, alleging that their meadows would be turned into "bogs and quagmires," their farms "mangled" and their fields

THE NEW RIVER

THE NEW RIVER from Stoke Newington to Clerkenwell



completed. It ran through his park and gardens, which made them more delightful, as it does wherever it passeth." Thereafter the work proceeded rapidly and finally, in September, 1613, the waters flowed triumphantly into the reservoir of the New River Head which had been formed at Clerkenwell for their reception.

At Amwell, near Ware, Robert Mylne, then the engineer to the New River Company, erected in 1800 a pedestal and urn as a memorial to Myddelton's achievement. The inscriptions are in the manner of their period. On the South side, to Amwell Spring:—

Sacred to the Memory of
SIR HUGH MYDDELTON, BARONET,
Whose successful care
Assisted by the patronage of his King,
Conveyed this stream to London:
An immortal Work,
Since Men cannot more nearly
imitate the Deity
Than in bestowing health.

And on the West side, to Chadwell:—

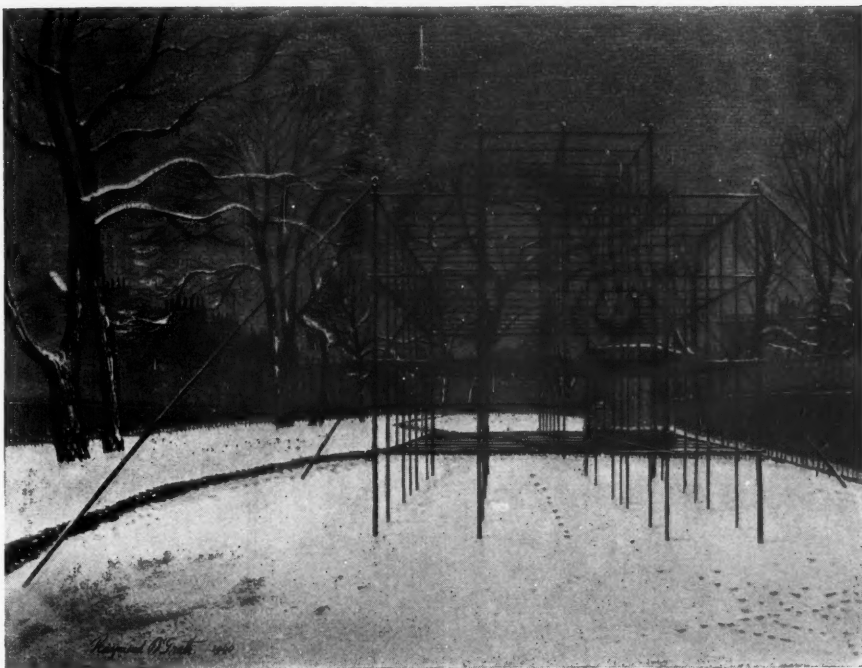
From the Spring of Chadwell,
Two miles West;
And from this Source of Amwell;
The Aquaeduct meanders
for the space of XL Miles:
conveying
Health, pleasure and convenience,
to the Metropolis of Great-Britain.

To follow the New River from its source to its head—from Hertford to Clerkenwell—is an interesting journey. History lurks in quiet, over-shadowed reaches. There is a wood-engraving in Hone's *Everyday Book* of the river at Hornsey and a description which indicates that its nostalgic influence was already at work in 1827:

"When I was a boy I thought Sadler's Well's Arch, opposite the Sir Hugh Myddelton (a house immortalized by Hogarth) the prime part of the river; for there, by the aid of a penny line, and a ha'porth of gentles and blood-worms, mixed, bought of old Turpin, who kept the little fishing-tackle shop, the last house by the river's side, at the end next St. John's-street-road, I essayed to gudgeon gudgeons. But the prime gudgeon-fishing then was at 'the Coffin,' through which the stream flows after burying itself at the Thatched-house, under Islington road, to Colebrook-row, within half a stone's throw of a cottage, endeared to me, in later years, by its being the abode of as much virtues as can live. Past the Thatched-house towards Canonbury, there was the Horse-shoe, now no more, and the enchanting rear—since despoiled—of the gardens to the retreats of Canonbury-place; and all along the river to the pleasant village of Hornsey, there were delightful retirements on its banks, so far from the busy haunts of men, that only a few solitary wanderers seemed to know them. Since then, I have gone over the hills and far away to see it sweetly flowing at Enfield Chase, near many a cottage of content, as I have conceived the lowly dwellings to be, which there skirt it, with their little gardens, not too trim, whence the inmates cross the neat iron bridges of the New River Company."

Today our exploration begins nearer home. We turn into Woodbury Down and there it is, clear and sandy—the New River, flowing into the reservoirs of Stoke Newington. Through the trees glitters a great expanse of water and along its waterfront stand the crumbling balustrades and the lonely, seagull-haunted summer-houses of the once fine homes of Woodbury Down. Here we must take to the road. The New River runs underground in its forty-eight inch river-main to Clissold Park. There it gushes from the roadside to make a surprising detour through the grassy pleasure. A crowd of boys are peering into the river for jack, the only fish which inhabit this part of its waters. We pass the doric portico of Paradise House, built in 1790 for a city banker and now an L.C.C. tea house. Beyond it rises from the trees the quaint spire of Stoke Newington Church. We follow on into the quiet reach called Aden Terrace, where, as a hundred years ago, wistaria and stucco are reflected in the sheltered stream. At the end of Aden Terrace the river again abruptly vanishes. Yet we have still to see its pleasantest stretch. For further on, at St. Paul's Road, we can lean upon the brick parapet and watch the river flowing

cut up into "quillies and small pieces." In the face of such opposition Sir Hugh's six hundred workmen took three years and the greater part of his fortune in bringing the disputed river as far as Enfield, so that he was obliged to petition the King for some assistance. James I responded to his appeal: "The great addition this stream made to the pleasure of Theobalds encouraged the monarch, who resided there, to have the design



If most of the grassy banks which Lamb knew have gone, at least some part of the New River's course in Islington is still given over to pleasure grounds. Left, a winter drawing of a climbing frame in the New River gardens at a point at which the river itself runs underground. Above, a "sequestered nook" of the New River at Hornsey from an engraving in Hone's "Everyday Book" for October 1827.

between grassy banks overhung by elm, lime and willow. On our right are the old houses of Canonbury Park, some empty and shuttered up, their large lush gardens running down to the waterside, others comfortably inhabited, with well-kept lawns, arbours and lattices.

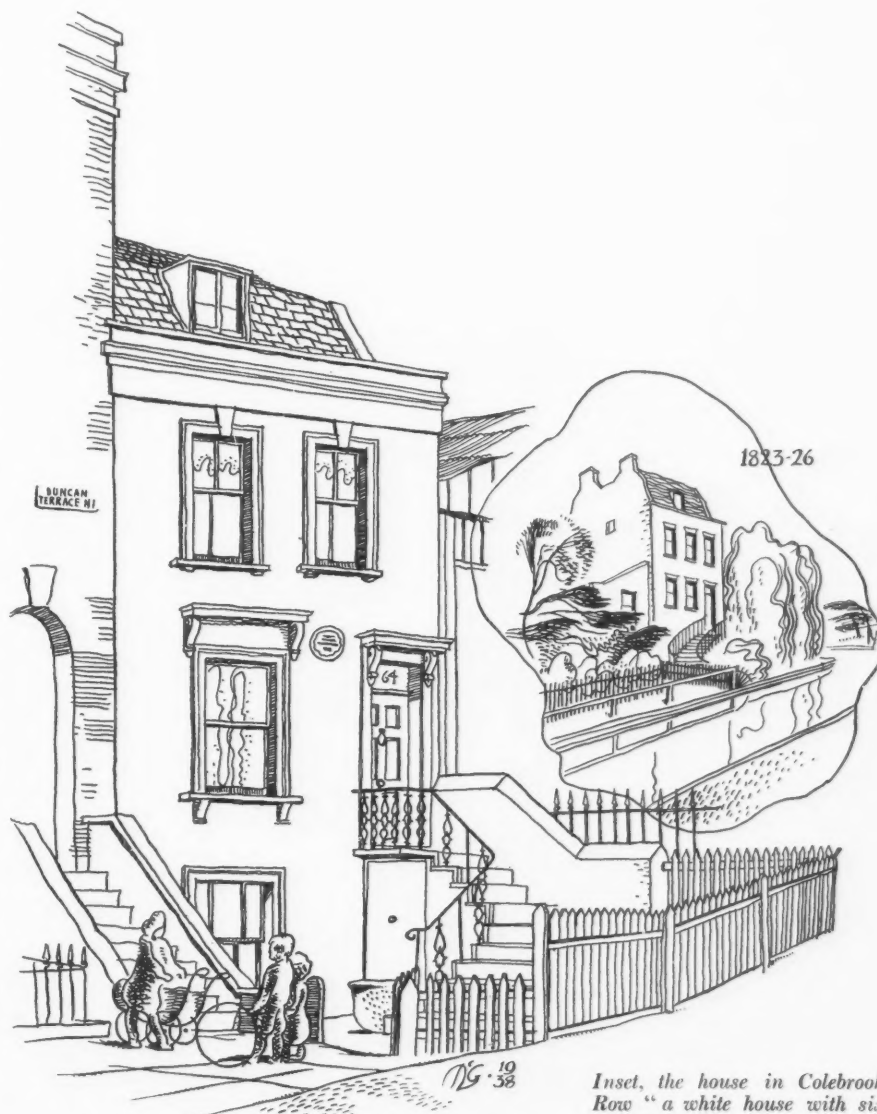
Canonbury is the perfect example of the early 19th century understanding of urban planning. Up there on the hill stands the Tudor tower of old Canonbury House which was the nucleus of this part. Canonbury Tower became a kind of glorified boarding-house towards the end of the 18th century when scholars and poets repaired to its country quiet. They say that Oliver Goldsmith wrote his *Vicar of Wakefield* there. Then in the early 19th century it became a celebrated tea-garden, and later on, in the '40's, these elegant houses were built. In the grounds of old Canonbury House stood two octagonal gazeboes which have since attached themselves to houses and, at the bottom of the garden, the New River made a graceful bend round a small brick hut. Pass the Willow Bridge to the water sluice in Canonbury Grove, and look back. There is the bend of the river and there is the round hut; but here the New River once more plunges, obedient, to its subterranean channel and flows silently and forgotten beneath the children's slides and climbing-frames in New River Gardens. Pass the Thatched Cottage in the Essex Road, cross over and we are at Colebrook Row. This in former days must have been a beautiful stretch of the river. At its north end, in number 64, once lived Charles Lamb; but in his day what a different scene. In an old engraving the house stands by the water under an ample willow. The tree is now cut down. A third of the house is sliced off. Buildings elbow it either side.

In 1823 Lamb wrote to his friend, Barton:

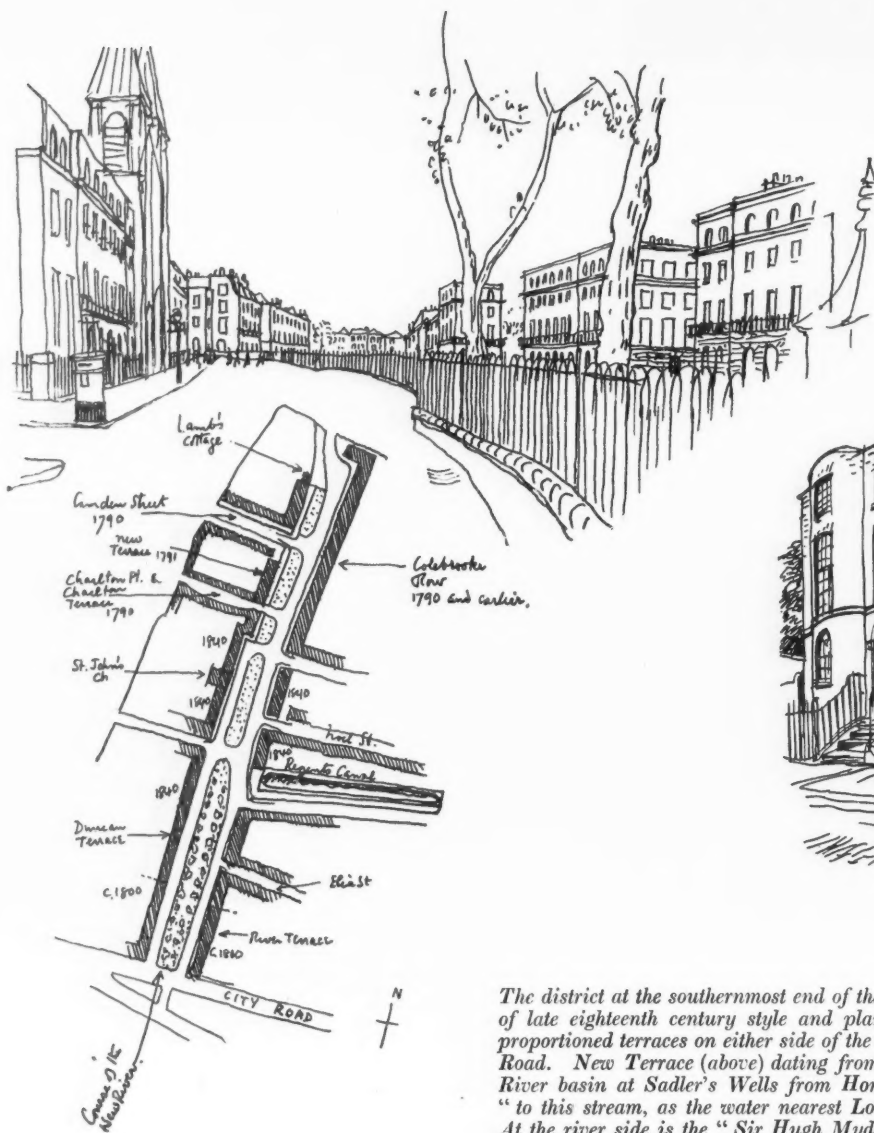
"When you come Londonward, you will find me no longer in Covent-garden; I have a cottage in Colebrook-row, Islington;—a cottage, for it is detached; a white house, with six good rooms in it; the New River (rather elderly by this time) runs (if a moderate walking-pace can be so termed) close to the foot of the house; and behind is a spacious garden, with vines (I assure you), pears, strawberries, parsnips, leeks, carrots, cabbages, to delight the heart of old Alcibiades. You enter without passage into a cheerful dining-room, all studded over and rough with old books; and above is a lightsome drawing-room, three windows, full of choice prints. I feel like a great lord, never having had a house before!"

And in another letter,

"My old New River has presented no extraordinary novelties lately. But there Hope sits, day after day, speculating on traditional gudgeons. I think she hath taken the fisheries. I now know the reasons why our forefathers were denominated



Inset, the house in Colebrook Row "a white house with six good rooms" where Lamb lived from 1823-26. On the left of it, the same house today; no longer detached, the willow vanished, the garden less spacious and the house itself mutilated. The title piece to this article shows the New River at Canonbury Grove.



The district at the southernmost end of the New River's course is one of the best remaining examples of late eighteenth century style and planning. Here the "ribbon" development consists of well proportioned terraces on either side of the river (left) running away at right angles from the main City Road. New Terrace (above) dating from 1791 is now part of Duncan Terrace. Below, the New River basin at Sadler's Wells from Hone's "Everyday Book" for March 1826 which notes that "to this stream, as the water nearest London favourable to sport, anglers of inferior note repair." At the river side is the "Sir Hugh Myddelton" public house.

East and West Angles. Yet is there no lack of spawn, for I wash my hands in fishets that come through the pump, every morning, thick as motelings—little things that perish untimely, and never taste the brook."

As Elia fades New Terrace, 1791, presents itself—still new in spirit. Here the New River disdainfully crosses the Regent's Canal, which down below emerges from its half-mile tunnel. Ahead of us is City Road. We are not far from the Angel. We navigate the traffic of City Road, find Owen's Row (a neat Georgian terrace) and come out in front of Sadler's Wells, renowned for "its musick and its water." This ugly duckling belies such a rich history. Once it graced the bank of the New River and on an Easter Monday in 1804, a novel entertainment was presented. "An immense tank was constructed under the stage, and extending beyond it, which was filled by a communication with the New River. On this aquatic stage was given a mimic representation of the Siege of Gibraltar." For many seasons following Sadler's Wells became the Aquatic Theatre.

We are now at the New River Head, the goal of our excursion. Disperse with your imagination the offices of the Metropolitan Water Board. Imagine that it is Michaelmas-day, 1613. A great crowd of spectators has gathered to see Sir Thomas Myddelton, Mayor of the City of London, and his brother, Mr. Hugh Myddelton, the creator of this river. A ceremony is about to begin. At the signal

"a company of labourers, to the number of sixty, well drest, and wearing green Monmouth caps, carrying spades, shovels, pick-axes, and such like instruments, march after drums, twice or thrice about the cistern, then present themselves before the mount, where the Lord Mayor, Aldermen, and a worthy company

of citizens stand to behold them; and one of them (in behalf of the rest) delivers a speech, commencing:

' Clerk of the Works, reach me the book to show,
How many Arts from such a labour flow.
First here's the Overseer, this try'd man,
An ancient soldier and an artizan . . . "

Then at the words "Flow forth precious spring" drums and trumpets sound, the floodgates fly open and the stream runs gallantly into the cistern.

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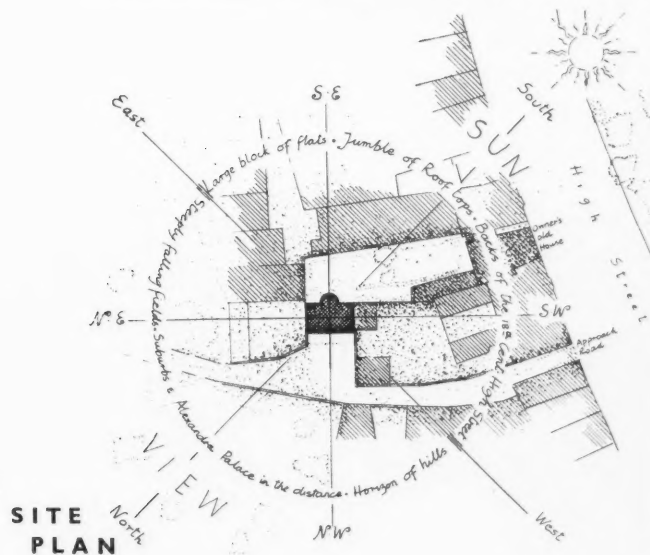


HOUSE AT HIGHGATE

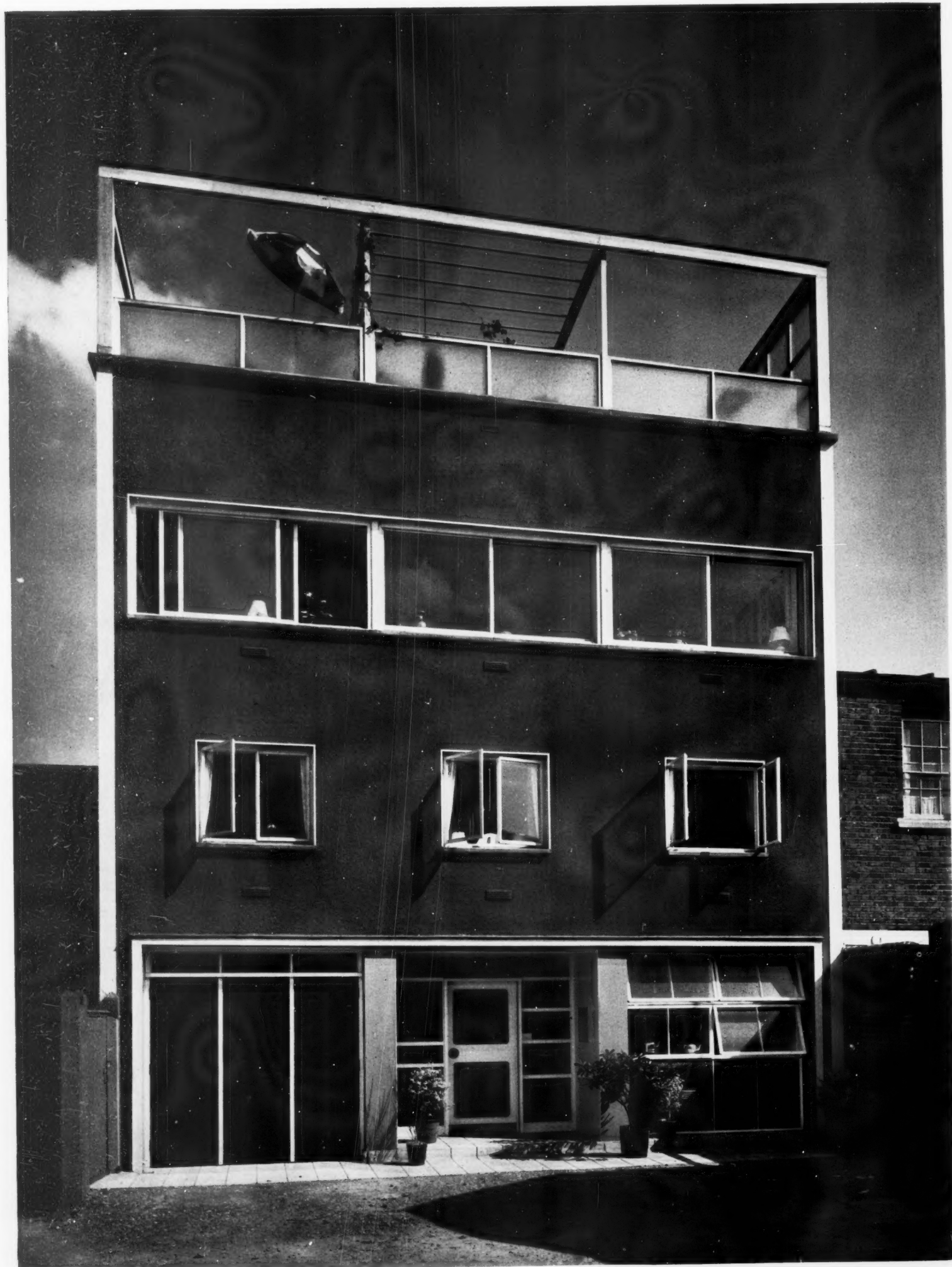
TAYLER AND GREEN, ARCHITECTS

This house is at the top of Highgate Hill and has a very fine view from the roof and from the studio which occupies the whole of the top floor. It is on the north-east side of Highgate Village High Street and is approached either by a private road through an archway from the High Street or from the garden of a house in the High Street already occupied by the owner. The new house, whose chief purpose is to provide a large studio with living accommodation attached, can therefore be used either in conjunction with the old house or as a separate dwelling.

1, The upper part of the house seen from the approach road, showing how the studio and roof terrace are opened out towards the view in the north and west. 2, from the garden which is shared by the two houses. The brick chimney was part of a system for winding trams by cable up Highgate Hill and is now disused.



2



THIS house presented an unusual problem in planning, as local town-planning regulations only permitted the building to occupy the same area as that covered by a cottage formerly on the site. This was a rectangle 30 ft. 6 ins. by 19 ft. 3 ins. This small area necessitated a vertically planned building to provide all the accommodation asked for.

The most important requirement was one very large room to serve as a studio as well as a living-room. This made it desirable that the staircase should not take up valuable space within the main rectangle, and special permission was obtained to project the staircase into the garden. The semi-circular shape of the staircase satisfactorily solves the problem of providing a continuous link between a number of floors without monotony, as its constantly changing direction introduces the needed variety. Moreover, it does not project too obtrusively into the garden—see 4, below.

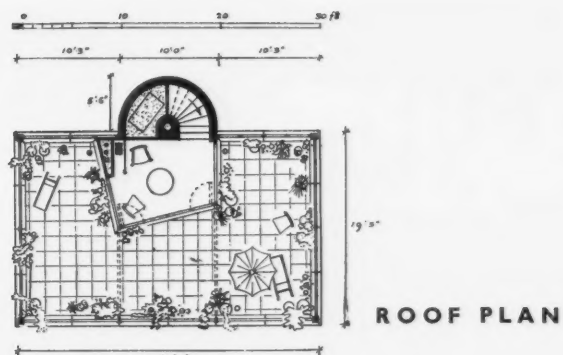
The large studio-living-room occupies the whole of the second floor, the staircase emerging directly into it. On the first floor are bedrooms and a bathroom, the latter acting also as a cloakroom for visitors on their way up to the studio. On the ground floor, besides the entrance hall, are the kitchen and a maid's bed-sitting-room, forming a self-contained service unit. A service lift connects the kitchen with the upper floors. The large entrance hall links the front door with the garden door in the staircase wall. The stair continues down to a cellar equipped with racks to hold the owner's paintings. At the top the stair winds up out of the studio into a small sitting-room at roof level, surrounded on three sides by a roof terrace. The sense of space inside the house is greatly increased by the fact that there are no doors separating the three units of ground floor hall, second floor studio and roof room, so that in effect these form a suite of rooms with direct vertical instead of horizontal connection.

3, the entrance front, which is a simple expression of the general arrangement of the house and its structural division into three equal bays. Considerable interest is added by the differently proportioned windows and their movements, sliding or hinged in different ways. The walls are rendered dark red on three sides and pale grey on the garden side, with a very rough texture. The corners of the building and the window reveals are rendered smooth and painted white, like all the exterior woodwork. This will allow the main lines of the building to be smartened by periodic repainting without great expense, while the rough textured walls darken with age. The ground floor soffit reveals and piers are painted pale grey, the garage doors and the panels below the kitchen windows are dark grey and the porch walls are of yellow tile.

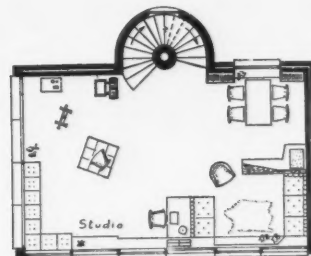
4, The garden entrance. This end of the garden, to the width of the new house, has been sunk and is separated by a grass bank from the rest of the old garden and paved to provide a sitting-out space. The old brick wall is faced with a white trellis whose squares are the same size as those on the roof, and this paved space and the roof garden to which the staircase turret directly leads have deliberately been made to share a common character.



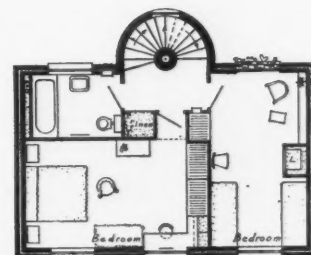
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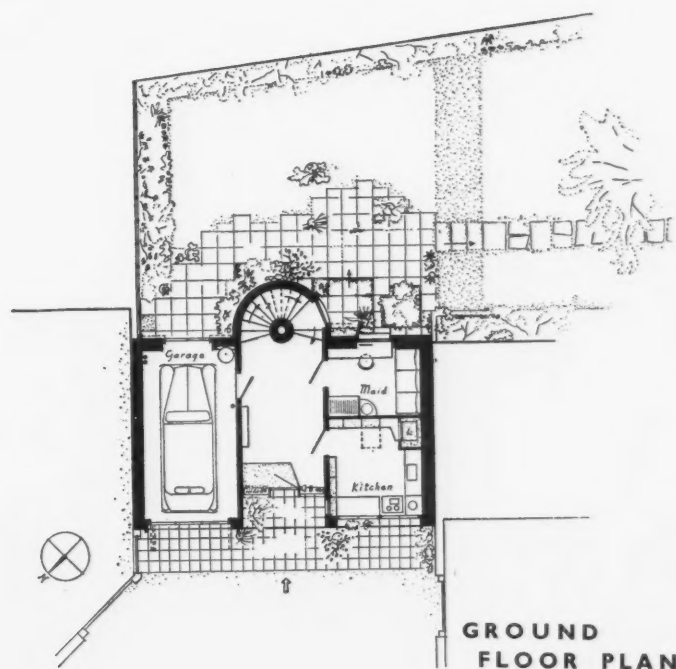
ROOF PLAN



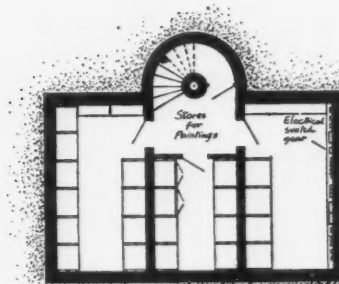
SECOND FLOOR PLAN



FIRST FLOOR PLAN



GROUND FLOOR PLAN

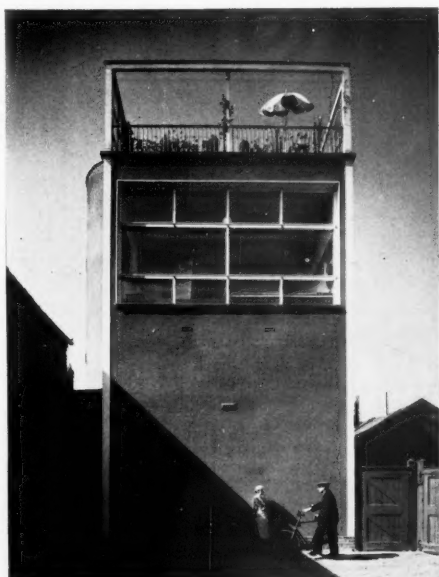


CELLAR PLAN

Entrance Hall

5, the side elevation, which faces north-east, showing the large studio window. The lower panes are of obscured glass to give privacy, but the coloured cushions on the window-seat inside can be seen sufficiently to add some decorative interest. The plinth is of dark blue bricks with white pointing.

The wall surface is of the same rough-textured rendering, in the same dark red colour, as on the front elevation. In choosing the material for this purpose a serious attempt was made, in consultation with the Building Research Station, to overcome the many disadvantages that external renderings are liable to possess; and with some success, as is indicated by the fact that when the photographs on these pages were taken the surface had been completed for 14 months and showed no deterioration of any kind. The chief points to which attention was paid were: that the brickwork should be laid in lime mortar and be as free as possible from soluble salts, that the rendering should be in at least three coats, the last coat being rough textured and thrown on to the wall rather than laid on with a trowel, that the mix should be as weak as possible and should contain the minimum amount of Portland cement, and that the surface should be protected by copings and cills with a big overhang and a sharp drip and no joints to let the water through. These conditions were found to be best fulfilled by a rendering of the rough-cast type, consisting of a first coat of slurry made from water-repellent cement and sand, a second coat (weak and open-textured) of hydrated lime, Portland cement and sand, and a finishing coat of coloured cement specially graded, made into a slurry and thrown on to the wall with a special machine that ensures uniformity of texture. Copings and cills are of heavy gauge zinc dressed over unplanned wood. The overhang of the main coping is three inches and of the cills two inches. Joints are welded, and raised strips at the ends of the cills prevent water running down the wall at these points and forming streaks.



5



6



7

6, a detail of the main entrance door in the centre of the street front. The door and its surrounding windows are slightly recessed and the reveals lined with yellow tiles. The woodwork is all painted white. The surround is panelled with textured glass, through which can be seen plants which stand on shelves formed by the panel framing. In the photograph the door is open, to show the length of the entrance hall, with the semi-circular staircase and door to the garden at the far end.

7, the inside of the hall, with the front door closed. The walls and ceiling are of rough plaster distempered a greenish grey. All woodwork is painted white, except the flush doors which are waxed sapele mahogany, striped vertically. Metalwork is dull chromium and the carpet grey cord. Above the heating tubes on the right is a reinforced concrete shelf faced with grey tiles.



9



8

K i t c h e n

Considerable colour has been introduced into the kitchen, only the cupboards and the wall tiling being the conventional white. The wall over the sink is yellow flat enamel and the opposite wall dark green flat enamel. The table tops are light red linoleum and the floor dark red linoleum. The interiors of the glass-fronted cupboards are in a dark red flat enamel. There is also a roller blind of green and white glazed chintz.

8, a diagonal view across the kitchen, showing on the left the tradesman's hatch connecting direct with the outside. It is incorporated in the cupboard fitting, and the inner panel can be locked, allowing tradesmen to raise the outer panel and leave goods in the space between. When lowered the inner panel acts as a receiving table.

9, the kitchen from the door to the hall. Opposite is the hand-operated service lift. The lift opening has a shutter divided horizontally in half. When the upper half is raised the lower half sinks simultaneously, as it acts as a counter-balancing weight. A telephone communicates with the studio and bedroom served by the lift, the latter's position being indicated by three small lights above the telephone. The stainless steel sink is on the opposite wall and the cooker and worktable on the adjoining wall where the light is best. Between the two is a zinc-lined dustbin cupboard. The obscured glass windows, top-hung, are designed to give ample light and ventilation but to prevent people seeing in.



10



11

Two bedrooms share the width of the house on the first floor, one being two bays wide and the other one bay wide but running right through to the back. 10 and 11, the two diagonal views of the larger bedroom. The space in between the two windows is entirely covered by a large mirror. The walls and ceiling are of smooth plaster, distempered white. The carpet is grey pile and the curtains and bedspread of a red leaf design on a white ground. Behind the bed is a dado of mahogany plywood, and either side are mahogany tables with tops inlaid with light and dark cork squares. These can also be used as stools, and except for one chair are the only pieces of movable furniture in the room. At one end of the room, that shown in 11, a clear floor space is kept for dressing with all the cupboards grouped round it. The wardrobe cupboard fronts are enamelled yellow, with the doors of the small cupboards above, which continue across the door and part of the way along the adjoining wall, enamelled dark brown. The chest on the left is veneered in African bubinga wood with a blue linoleum top.

Bedrooms and Bathroom

12, looking into the smaller bedroom from the staircase landing. On the left is a wide window opening on to the garden. A white painted iron railing in the window opening allows this window to open right down to the ground making an open balcony of the room itself. The wallpaper has red and blue flowers on a white ground. The carpet is grey pile and the curtains blue chintz.

13, the bathroom. It has glossy white enamel walls but with the wall behind the bath in chocolate brown flat enamel. The white ceiling is distempered to prevent condensation. The floor is light red linoleum, which is carried up the side of the bath. The high window opening has been made more ample in effect by lowering the inside cill, which serves as a shelf for bottles and is faced with yellow tiles.



12



13

Studio

This room, which covers the whole area of the building on the second floor, is to be used not only as a studio but also as a general living-room and for meals. Unlike many painters, the owner preferred that it should have a marked character rather than the neutral character of a workshop, so considerable richness has been introduced in the colours, textiles, furniture and ornaments. In spite of its many functions the whole extent of the room reads as one volume, and a certain amount of loose furniture gives flexibility, though at one end corners of the room are planned as a dining space and a sitting space and partially partitioned off with built-in furniture.

16, the dining corner. An effect of greater intimacy is given to this corner by the small window with its cill at table-top level and its head below the eye level of a person standing up. This concentrates the view downwards on to a fine almond tree in the garden. The window, which gets the morning sun, can be completely lowered into a space below the cill. If wanted for only two people the table can be turned parallel to the window, when it fits exactly into the recess. It is of mahogany and beech with an alternative upper surface of loose yellow tiles laid on felt in a specially recessed top. The chairs are eighteenth-century ones of Greek pattern. The book shelves are of gaboon and bubinga veneers with white painted edges.

17, looking from the dining corner to the working end of the studio. At this end the floor-space is kept clear, except for a free-standing shaft near the right-hand wall which takes the roof drainage and to which a stainless steel studio sink has been fixed. The scale of this portion is in keeping with the lightness and openness of the treatment of the external wall and windows. The very large end window is subject to possible closure as there is no permanent right of light over adjoining property. If this is necessary it is calculated that the long window on the left, which overlooks the street, will light the studio sufficiently. Walls and ceiling are of rough plaster distempered white, and the floor is of oak plywood squares.

18, looking from the studio portion, with the dining and sitting corners at the far end. They are separated by a sideboard fitting incorporating the service lift. The window cill on the right is of solid mahogany with a bookshelf underneath supported on mahogany legs. On the left is the staircase with its centre column of smooth white plaster, back wall of rough plaster distempered greenish grey, pink soffit, grey cord carpet and magenta cellulosed handrail. The central heating system ensures that warmed air, not draughts, shall enter the studio from the staircase opening.



16



14



15

14 and 15, alternative furniture arrangements in the sitting corner at the south end of the studio. Instead of the conventional grouping of seats round a fireplace with the windows behind, the seats are here grouped to face the windows, the fire being kept subsidiary. It is an electric one suspended from the window shelf and is designed to give light as well as heat frankly for reasons of comfort. The window cill is mahogany and the fitting beneath of Columbian pine and bubinga veneers, with white painted edges. The sideboard on the left, separating the sitting corner from the dining corner, is of the same woods with a white linoleum top. The lower portion contains a cupboard and cutlery drawers and the service lift casing. The upper shelf is of glass, and a glass plate which shields the rising lift from the sofa, also provides a small display case for ornaments. The upholstery is Persian red.



17



18

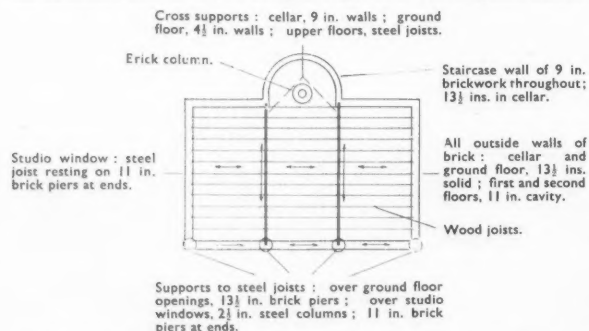


19

Roof Garden

At roof level is a small sitting-room into which the staircase directly leads. This is glazed on three sides, one of which can be completely opened, as in 19. The windows, painted white, are of the same Swiss make as elsewhere (see page 74), the advantage of the pattern employed here over the more familiar "concertina" pattern being that each leaf can be left standing or folded back independently. The roof garden is screened with obscured glass panels on the two sides that are overlooked by other buildings. The other two sides, those seen in the photograph, are open, one having an obscured glass balustrade and the other, where the view is best, an open metal one. Adjoining the sitting-room is storage space for deck chairs, etc. To increase the sense of security at such a height the roof garden is enclosed by posts and lintels of wood painted white, which can also be used to support curtains or awnings. Rough materials that would hold dirt have been avoided, and the roof surface has been given a good fall so that it can be cleaned by hosing.

CONSTRUCTION The house is built entirely of brick, with steel joists spanning the large window openings. On each floor the structure consists of three equal bays, as in the diagram below.



Above roof level the whole structure is of wood, except for the intermediate pergola posts which are of metal T sections. Non-structural partitions are of 3 in. clinker blocks. The staircase consists of 1 1/2 in. deal treads and risers spanning direct from the brick wall to the central column without carriages or soffits.

INSULATION Although the external waterproof rendering (see page 75) made cavity walls unnecessary for protection against

weather, they are provided for thermal insulation to the main rooms. The roof is insulated thermally and acoustically by being constructed of two independent sets of joists, covered with Tentest board, boarding and patent paving. The studio floor also has two sets of joists, with quilting between them to deaden resonance and with paper felt beneath the parquet flooring to deaden footfalls. The bedrooms are insulated from each other by their wardrobe cupboards. Lime plaster, finished rough in the studio and hall, is used throughout as it is sound absorbent.

EQUIPMENT Heating, hot water, cooking and lighting are all electric. Heating is by oval section tubular heaters which project only 2 1/2 ins. from the wall and are easily accommodated beneath window shelves, etc. In the studio there are continuous tubes of the same lengths as the windows to counteract heat losses from the large glass surfaces. Each room has a main switch and a thermostat so that its temperature can be independently controlled. Lighting has been provided in the form of numerous points of low wattage for independent use where the light is required. Thus in the studio there is no general artificial lighting, but an effect after dark of a dimly lighted room punctuated with brightness at focal points such as the dining and sitting corners, the writing desk, etc. Here plug points are provided at sill and table level. The staircase is illuminated on the flights as well as the landings, all the fittings being on the central column.

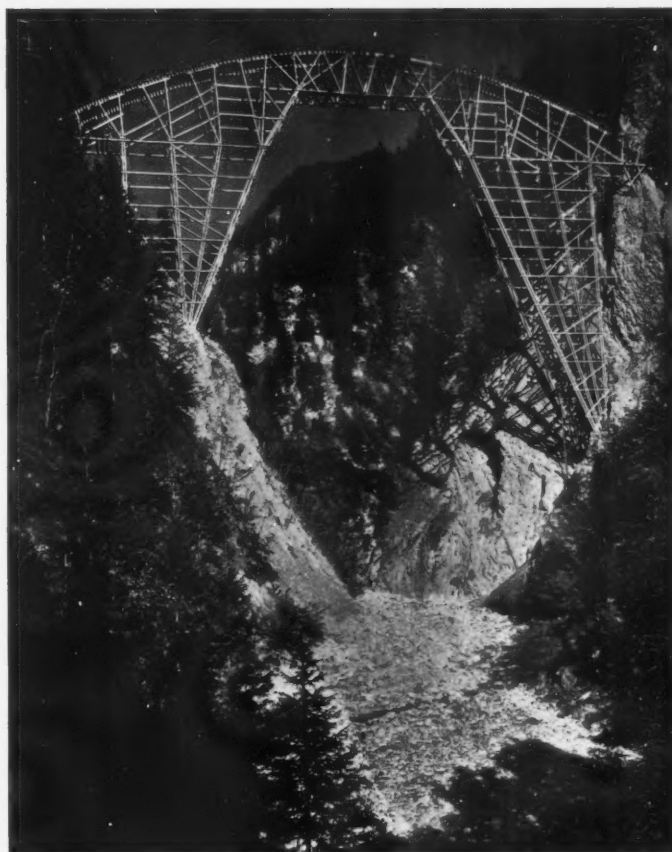
COST The total cost was £3,000, including demolition and all the furniture except a few pieces from the owner's former house.



20, the house seen from the fields that slope away from the front, showing the whole arrangement of screens round the roof garden illustrated above, and also showing the relationship of the two large studio windows.

80

Robert Maillart, the great Swiss engineer, specially famous for his revolutionary designs for reinforced concrete bridges, died this summer. His work is not only important from the technical point of view but because the designs he evolved have exercised considerable influence on the æsthetic development of modern architecture. They may be said to exemplify in a very pure form the quality of concrete as live structure as distinct from the quality of stone as an inert mass. It is his unpremeditated æsthetic originality which the collection of illustrations that follow, and Mr. Shand's personal tribute, are intended to demonstrate. The illustration alongside shows his bridge over the Salgina-Tobel while under construction.



Robert Maillart, 1872-1940

By P. Morton Shand

ROBERT MAILLART belonged to a Bernese family of Huguenot extraction (Ella Maillart, the well-known Asiatic explorer and French foreign correspondent is his niece). He received his training at the Swiss Federal Polytechnic at Zurich and, after a brief apprenticeship in railway engineering, in the City Engineer's department of the same city. There, on his own initiative, he worked out an alternative design for a road bridge, the estimate of which had already been approved. The approved design was in cast iron. His own, which was in concrete, promised a 30 per cent. saving in cost. This he was actually allowed to carry out. "All the commissions for bridges I have ever had, have been awarded to me for the same reason," he used to say with a malicious twinkle in his eye. "You see, I have always been cheap!" Once he confided to me that perhaps, after all, the result was sometimes a cleaner and more workmanlike-looking design than had sufficient funds been available to make recourse to his services unnecessary.

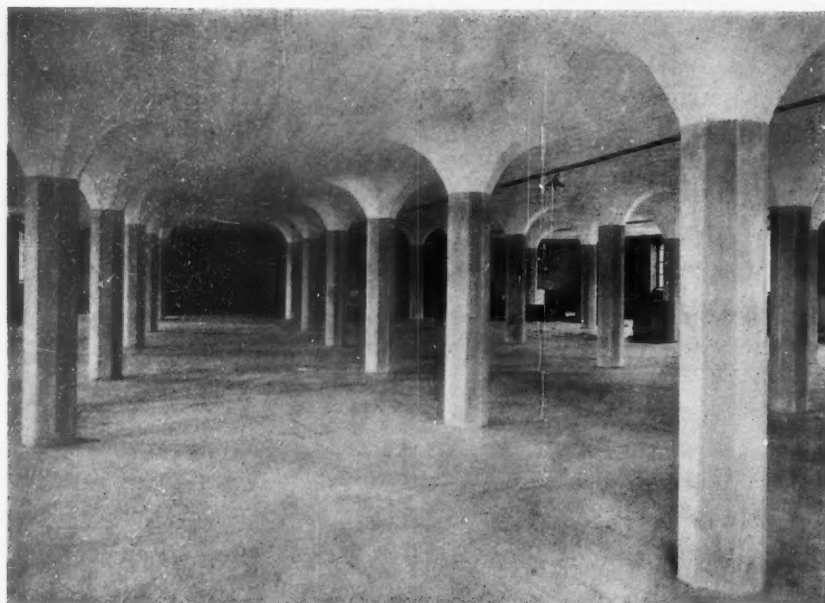
He soon set up on his own as a contractor specializing in concrete construction, and one of his first important jobs was a sanatorium at Davos for which François Hennebique acted as consulting engineer. It may be presumed that this early collaboration with the, then, most eminent living designer in concrete exercised a considerable influence on Maillart's own development. Yet from the first he was in no sense a slavish imitator of the great French engineer, and it is much nearer the truth to say that Maillart's contributions to the technique

of reinforcement began at the point where Hennebique's had stopped short. As a contractor he worked chiefly on factory buildings in several parts of Europe, but particularly in Russia, where he settled definitely just before the last war. There he lost his whole fortune, and when he returned to Switzerland he had to start life again, not as a contractor, but as a consulting engineer.

In 1940, the year of Robert Maillart's death, it is difficult to assess his direct influence on the evolution of what may be called the second phase of the New Architecture. Nor, in all probability, would it have been much easier to do so had the second world war not yet broken out.

Primarily, the reason is that the pre-belligerent period of the present struggle, inaugurated by the absorption of Austria, started just when Maillart's work was beginning to be more widely known and to some extent emulated. It is hardly necessary to add that the general expectancy of a European conflagration at an early date which this initial *gewalttat* produced soon reduced ordinary building activity to a state of semi-stagnation on the Continent, and largely deflected money voted for civil to military public works.

But almost up to the end of his career—which, in a pioneering sense, chiefly coincided with the last fifteen years of a long life—he was a great prophet to whom wholly inadequate, and often, indeed, decidedly grudging, honour was paid in his own country, by professional colleagues and well-informed laymen alike,



Maillart was one of the pioneers of mushroom-slab construction in reinforced concrete. This warehouse in Zurich, designed by him in 1908, was the first building of its type in Europe.

compared to that spontaneously accorded in France to Eugène Freyssinet* (who incidentally built only a single bridge).

It is hardly an exaggeration to say that it was foreign enthusiasm for Maillart's work (chiefly among the younger generation of architects who followed in the footsteps of Gropius and Corbusier) which was largely responsible for directing Swiss attention to the visible achievements of one of their fellow countrymen in their own native land.

Maillart's creative work falls exclusively within two fields that, anyhow till very recently,* were considered part and parcel of

* This country can take some pride in the fact that in the same year, 1937, both Maillart and Freyssinet were elected honorary members of the R.I.B.A.

Engineering to the exclusion of anything understood by Architecture properly so called: Mushroom-Slab Construction and Bridge-Building. Yet Maillart probably did more to reunite the two aspects of structural design—which can never be separated, although the dilettante cultural snobbery of the 19th century preened itself on having made them artificially separable—than any one man since Joseph Paxton. In this sense he built for the future far more than for the present, although he confined himself to finding rational solutions of essentially contemporary problems.

Maillart was far too modest a man to have made any claim to have influenced the architecture of our generation, though he might sometimes be brought to admit that he had

contributed some "minor"—an adjective he always insisted on interpolating when discussing his own work—practical examples to its utilitarian category. Indeed, he regarded himself simply as an ordinary (if impenitently unacademic and unorthodox) civil engineer, who happened to have specialized in reinforced concrete and achieved one or two "minor" advances in its structural technique.

What is rather clumsily named Mushroom-Slab Construction (a lazy and unreflectingly literal translation from the German term *Pilzdecke*) is still confined to buildings such as granaries, warehouses, and multi-floored factories. Consequently architects have hitherto had rather restricted opportunities of adopting it. Almost the only outstanding architect-designed modern building that readily comes to mind in which mushroom-slab construction was employed—it would be interesting to know to what extent it has stood up to the aerial bombardment of Rotterdam—is Brinckmann and Van der Vlugt's Van Nelle factory. But in the Van Nelle factory, as in all, or very nearly all, the English examples, the more ponderous, so-called American (Turner) system* was adopted, in which a square intermediate slab is introduced between the head of the column and the floor-slab. Alvar Aalto adopted a variant of the Maillart type of column for the newsprint storage basement of the "Turun Sanomat" offices at Åbo; while a very interesting hybrid form of the Turner and Maillart types supports the Linotype Room of the same building. Perhaps the most perfect example of the Maillart system is the four-storied Swiss Federal granary at Altdorf, in which tier upon tier of gracefully foliating octagonal columns rise one upon another, in progressively diminishing girth, from the cellar to the attic floors. There can be little doubt that the Maillart type will ultimately prevail over the American, and is

* The two systems were evolved more or less simultaneously but quite independently.

[Continued on page 86]

BRIDGES BY ROBERT MAILLART

ARRANGED IN CHRONOLOGICAL ORDER

1906

The first bridge in which Maillart completely discarded the conventions of masonry construction. It crosses the Upper Rhine at Tavanasa in the Grisons, and in spite of its astonishingly early date possesses all the grace and elegance that were later to become typical of Maillart's reinforced concrete designs. It has a clear span of 51 metres and is very simple in section, consisting of a thin web, bent into an elliptical arch, on which rests an equally thin horizontal slab, which is the roadway platform. This bridge no longer exists as it was swept away by an avalanche in 1927.



1926

The Valtschiel bridge (clear span, 43.2 metres) first shows Maillart's favourite motif, seen in various forms in all the bridges on this page, of an entirely open spandrel stiffened by a number of thin vertical slabs the width of the bridge. Note the expressive contrast of character between the sprightly lines of the concrete bridge and the massive stone abutments with their semi-circular arches.



1929-30

The Salgina-Tobel bridge is notable for being asymmetrical, the spandrel at one end being continued as a kind of viaduct to make up a difference in contour between the two sides of the ravine. It has a clear span of 92 metres, but the arch is less than 8 ins. thick. In contrast with the geometrical simplicity of the Valtschiel bridge, this one already shows some of the more organic shapes that Maillart evolved in his experiments with concrete construction. The apparently much deeper arch member actually consists of two parallel vertical slabs joined by a horizontal soffit, forming a sort of trough which takes the place of the usual single arch slab.



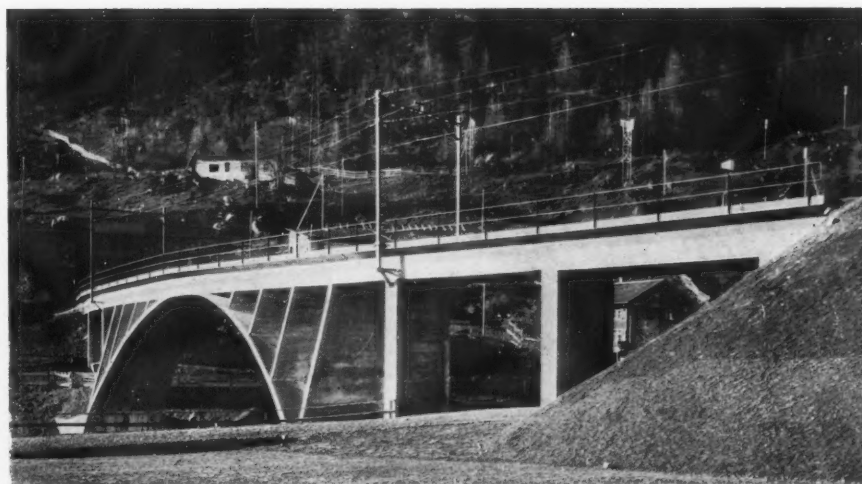
1930

The Ladholtz bridge, near Frutigen, was built in four weeks at a cost of approximately £500. It has a span of 26 metres. The reinforced concrete parapet wall is homogeneous with the platform slab and is designed as an integral part of the structure.



1930

The Landquart bridge (clear span 30 metres) presented an unusual technical problem. It brings the Rhaetian railway into Klosters on a curve of 125 metres radius. Instead of curving the whole bridge in plan, Maillart made the platform slab wide enough to accommodate the arc described by the metals, and sharply battered the outer face of the substructure to compensate for the uneven stresses arising; the arch slab and the vertical stiffeners, that is to say, spread outwards as they near the ground.



1932

The Rossgraben bridge (82 metres clear span), near Schwarzenburg, introduces for the first time a slight but important change in design. The soffit line of the arch, instead of describing a continuous curve, takes up an ogival shape, two curves meeting in the centre at a slight angle. Maillart justified this innovation as entirely rational in a famous article which he contributed to *Le Génie Civil* in 1934, in which he criticized the practice of shaping arch contours in deference to traditional design.



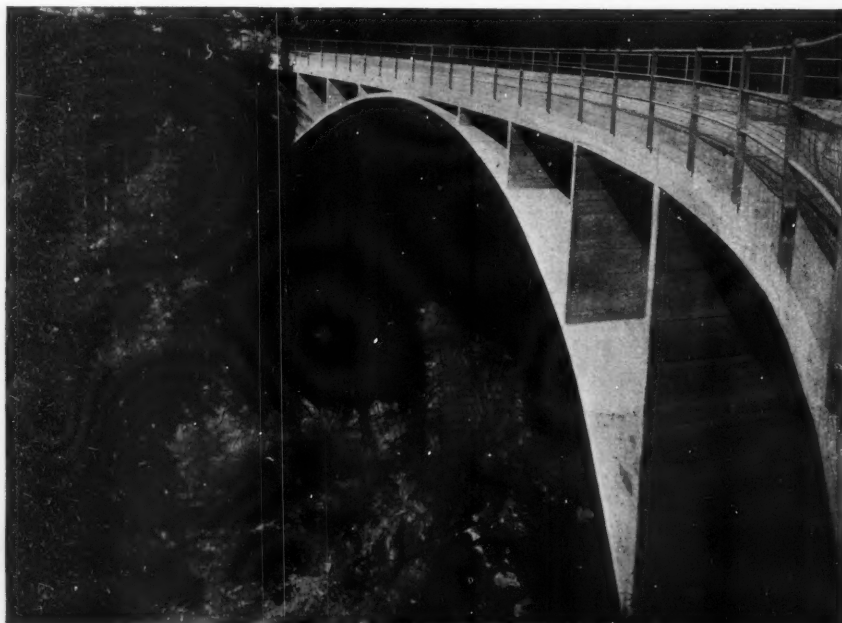
1933

This charming little hump-backed footbridge of 40 metres span at Tössteg, near Winterthur, exemplifies how, in spite of his insistence on truthful structural expression, Maillart's real claim to distinction was his ability to extract all possible æsthetic value from the reinforced concrete slab construction he used. His formal sensibility, particularly shown in the delicate balancing of masses, made him a good deal more than a mere constructor. The arch follows the flattest curve that would give a reasonable clearance for flood waters, and merges in the centre with the curve of the platform, which is of slightly greater radius in the centre and straightens at the ends into a ramp formed of a flat slab.



1933

Two views of this bridge over the Schwandbach, near Schwarzenburg, are given to show its curved shape on plan, which was here followed by Maillart for the first time and demonstrates the flexibility of his structural system. There is no separate decking slab, traffic being carried direct on the platform slab. The span is 37.4 metres.



1934

Maillart's bridge near Felsegg (St. Gallen), over the River Thur, of 72 metres clear span, shows in more pronounced form the slightly pointed arch, which he first introduced in the Rossgraben bridge (see facing page) as a motif that naturally followed from close analysis of stresses. As a result an extraordinarily forcible as well as unusual plastic character emerges directly from the structural method. Maillart's bridges by this time owed nothing at all to traditional bridge forms. He had developed a mature and expressive idiom peculiar to reinforced concrete.



1934

The Innertkirchen bridge over the River Aare, of 30 metres clear span, is notable for the remarkably flat curve of its arch. It is a simple but very graceful structure. Like the Landquart bridge it has a continuously eccentric line of thrust, and like the Schwandbach bridge the traffic is carried direct on the platform slab.



1937

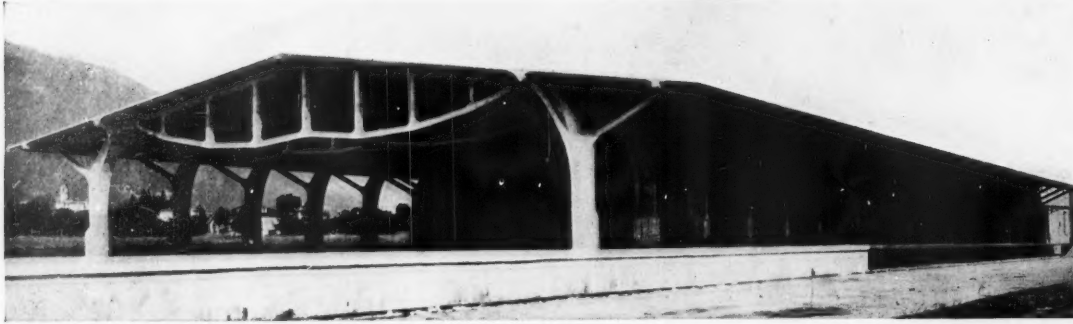
This view from beneath the Pont de Vessy, a bridge which crosses the River Arve into one of the suburbs of Geneva, gives some idea of the extent to which Maillart carried his fundamental designing principle of eliminating material from every point where the stresses did not call for it, and of allowing expressive new geometrical motifs to emerge naturally as a result of following the changing stresses as closely as possible. Again the arches meet at the crown at a marked angle. The platform being of exceptional width, the arch takes the form of a series of ribs instead of a single slab.

Acknowledgments are due for the loan of blocks illustrating this article to the Journal of the Royal Institute of British Architects and to Messrs. Faber and Faber, in whose publication, "Circle," appeared an instructive article by Dr. Siegfried Giedion dealing with the aesthetic significance of Maillart's reinforced concrete designs.



THE BRIDGES OF ROBERT MAILLART

ARRANGED IN CHRONOLOGICAL ORDER



This customs warehouse at the frontier station of Chiasso, designed by Maillart in 1923 for the Swiss Federal Railways, illustrates better than any of his other buildings the peculiar forms, with their own vivid æsthetic character, that he evolved out of close study of reinforced concrete stresses. In this very original building the members resulting from the elimination of all unneeded material and from the exploitation of the homogeneous nature of concrete construction bear a revealing resemblance to vegetable forms and also remind us how much modern structural principles have in common with Gothic.

[Continued from page 82]

destined to become a widespread architectural idiom; for, quite apart from its undeniable classical beauty, it is more economical in space and material, besides offering better support and distribution of load. A single-storied Leningrad cotton mill built by Maillart just before the last war is interesting both as the prototype of his system, and also because very slender mushroom-headed columns were there used to support the ridge and furrow roof.

Maillart began and ended his career as a bridge-builder, but it was only during the latter years of his life that he was producing bridges of revolutionary design and solving unprecedented problems in bridge construction. Thus he was the first to build a concrete bridge in which the platform and substructure alike are built

"collaboration" with a really scholarly architect. Anyhow, after he returned to Switzerland, these early examples troubled Maillart's professional conscience and started him thinking about the forms which modern bridges built of concrete ought to assume. They led him to realize that there could be no logical or economic defence for making concrete bridges echo the appearance of masonry ones; and that the modern designer should refuse to be influenced by considerations which had nothing to do with the problem of building a bridge in a semi-plastic synthetic material poured into a mould, instead of being built up stone by stone. Maillart's first revolutionary design, the Tavanasa-Brücke (1905-06), unfortunately no longer survives, as it was swept away by an avalanche some ten years later, but the illustration sufficiently vindicates the use of the adjective employed, though at first glance it may appear as a perilously attenuated example of what, by an apparently unchallenged tautology, is known as the "flat-arched" (instead of "flattened-arch") type.

It must be remembered that at that time where the spandrels of concrete bridges were pierced at all, they were filled by diminishing rows of small vertical members that were supposed to augment the support given to the platform besides being considered decorative. In the Tavanasa-Brücke we have a form suggestive of a pair of skates joined toe to toe with a thin sole running along the top of their blades: a form of surprising lightness and grace completely alien to all preconceived conceptions of that "solidity" of appearance which used to be deemed the cardinal æsthetic criterion of any fine bridge. If one can rid one's mind of inherited æsthetic prejudices, like the tacit belief that the lines natural to a stone bridge are those just as proper to a concrete one, the curve of this arch will soon be recognized as wholly satisfying to the eye. The Tavanasa Bridge at once roused the kind of artificial opposition that is fomented in urban artistic circles, although invariably described as "a spontaneous local outburst," in which its low cost and unexceptional simplicity were entirely lost sight of. According to these pundits the fact that the site was a remote and rugged Alpine gorge ought to have postulated a correspondingly rugged design "in keeping with the natural surroundings." The result of this campaign was that it was not till seven years later that Maillart had the chance to carry his new type of single-span bridge a step or two nearer its logical development.

This period of public hostility and municipal boycott enabled Maillart to "come clean"

with himself; and with characteristic honesty and humility he proceeded to publish his confession in the well-known French technical periodical *Le Génie Civil*. In it he admitted that even such an untraditional design as the next bridge he had to build had been clearly influenced by the unconscious atavistic urge to approximate to traditional lines in points of detail. Thus he showed that on closer analysis the crown of the Valterschielbrücke, an apparently uncompromisingly unorthodox design, evinced the same insidious symptom: an artificially rounded-off crown to the arch of its 90 metres span, where the logical form in this type of construction (ultimately embodied in his bridges over the Rivers Thur and Arve) should have been a crown very slightly knicked into a faintly ogival suggestion of late Gothic.

What Maillart accomplished is far better and more directly apprehended by the eye than the brain. So I can only conclude this wholly inadequate personal tribute to ten years' friendship with one of the most simple, human, and loveable men I have known by begging my readers to study the illustrations and judge his work by these and these alone, unless they have been fortunate enough to see any of their originals.

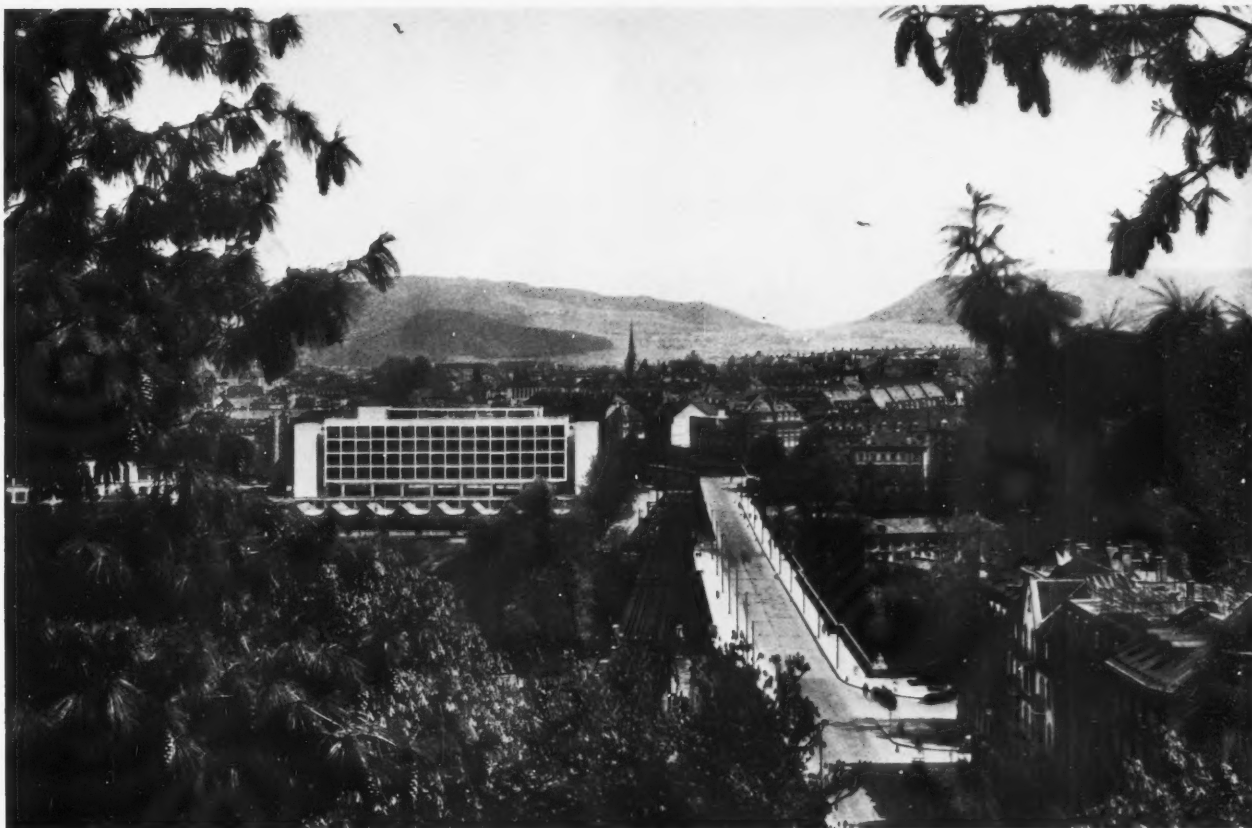


The Laufen bridge carrying a branch railway line over the River Birs, near Liesberg, built in 1935, again exemplifies Maillart's unconventional but essentially concrete forms. It is of flat arch construction with a central span of 22 metres, and the rails are actually embedded in the platform slab.

in the form of an ellipse. He was also a pioneer in insisting that a separate decking slab was unnecessary and eliminating it altogether (a railway bridge of his over the Rivers Birs has rails embedded directly in the floor beams). Although Maillart built two or three bridges in Switzerland before he settled in Russia, these are not in any sense particularly notable. Those over the Rhine and Aare conform to the sort of pseudo-masonry types which the plea of the necessity for preserving a smattering of semi-medieval local amenities is still often said to "demand." They were dutifully encased in rusticated stone, probably as the result of



A view from the river bed, showing the under side of the arch slab of the Rossgraben bridge, illustrated on page 84.



2

CURRENT ARCHITECTURE

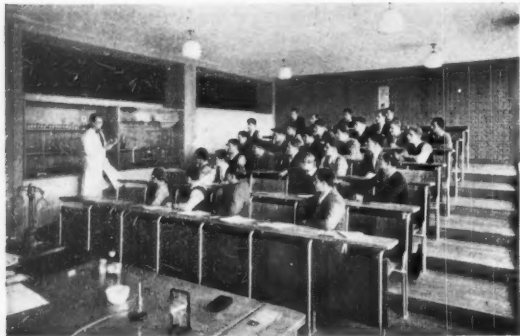
TECHNICAL SCHOOLS

HANS BRECHBÜHLER

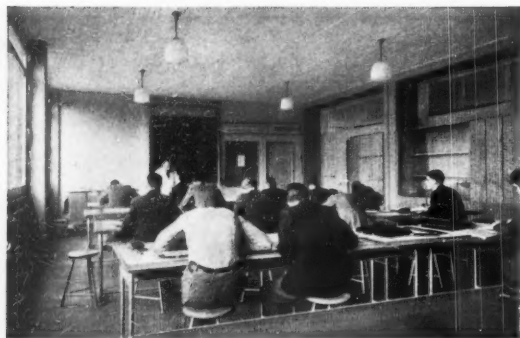
SITE At Berne, Switzerland, at the point where the Lorraine Bridge crosses the end of the valley in which the town lies. The buildings run at right-angles to the bridge, so that all the main work-rooms face the sun. The scheme is the result of a competition and consists of three parts: the new technical school, illustrated here, enlargement of the existing instructional workshops and a group of assembly and lecture halls still to be built.

1, distant view, showing the Lorraine Bridge approach to the town of Berne and the school building with the single-storey workshops immediately in front of it. 2, the south front, showing the main entrance at the foot of the staircase tower.

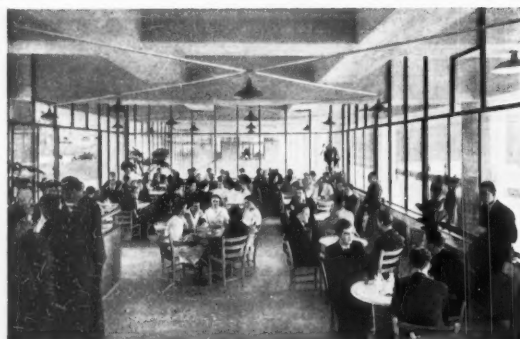
3, a typical classroom and demonstration laboratory. Above the equipment built into the spaces between the stanchions, is the continuous lighting to the central corridor. 4, a typical draughting room with, in this case, the corridor wall on the right. 5, the students' canteen on the ground floor with the open recreation hall beyond the glass walls.



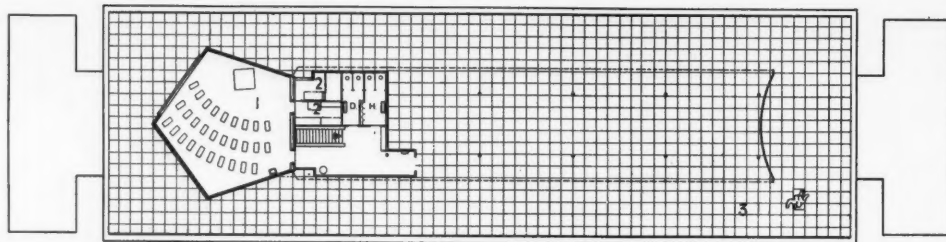
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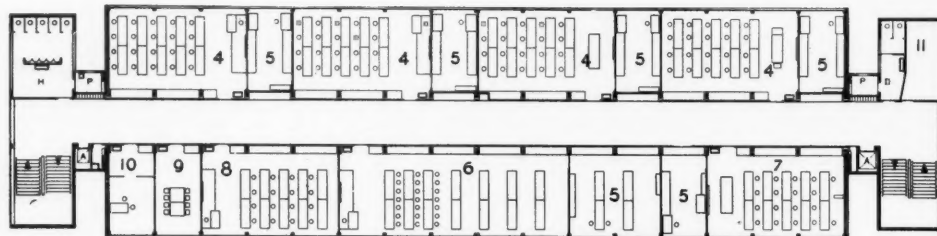
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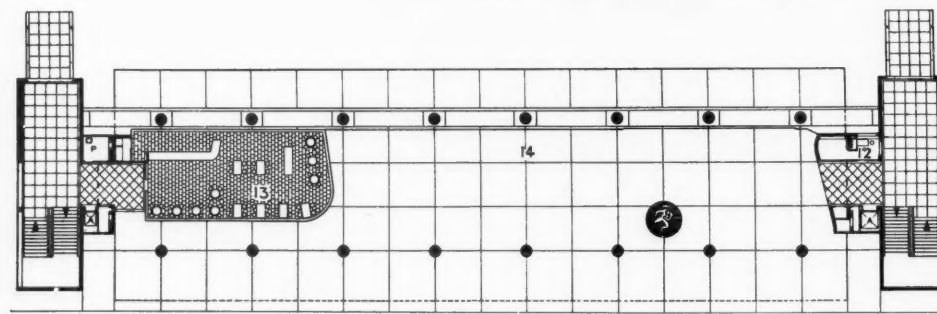
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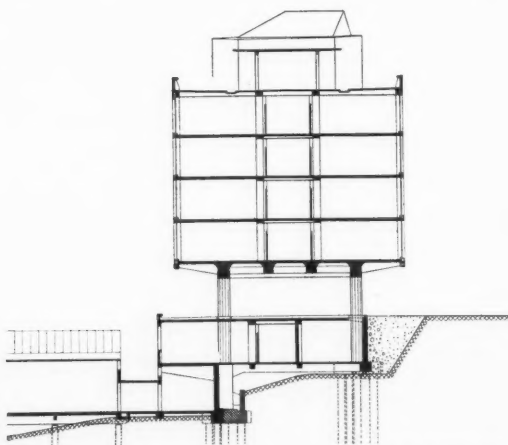
ROOF PLAN



TYPICAL UPPER FLOOR PLAN



GROUND FLOOR PLAN



SECTION

KEY

- | | |
|--------------------------------|----------------------------|
| 1. Art Room. | 7. Engineering Class Room. |
| 2. Model's Rooms. | 8. Class Room. |
| 3. Roof Terrace. | 9. Study Room. |
| 4. Metalwork Class Rooms. | 10. Principal's Room. |
| 5. Instructors' Private Rooms. | 11. Switch Room. |
| 6. Woodworking Class Rooms. | 12. Caretaker's Flat. |
| | 13. Canteen. |
| | 14. Recreation Hall. |

PLANNING The building has eight floors, two of which are below the main road level (see section). Of the latter ones the upper contains machine demonstration rooms and a test laboratory and the lower one, on the same level as the existing workshops, links up with these and provides storage space. At ground floor (or road level) the plan is entirely open, as shown in 7, consisting of a large hall on the columns of which the main structure of the building rests. It serves as a recreation space and has a fine view over the workshop roofs to a park that lies beyond. Part of it is partitioned off by glass screens to form a students' canteen, 5. The upper floors are identical in planning, each having a central corridor with classrooms, lecture-rooms and laboratories along either side. Instructors' studies adjoin each classroom. Lavatories are in the staircase towers at either end. An art room on the roof is structurally independent of the main system. The rest of the roof terrace, which is partly covered, is used for recreation and for open air classes, drawing and photography. The enlarged workshops at the lowest level provide a machine-shop area approximately 220 feet by 75 feet, as well as cloak-rooms and storage space. The heating plant for the whole building is also at this level.

CONSTRUCTION The sub-soil was both soft and very wet and the whole building therefore rests on concrete piles. The structural system of the building itself was the subject of a separate limited competition, won by the engineering firm of Siegfried. A reinforced concrete skeleton superstructure rests on the sixteen ground-floor columns which are spaced at four metre intervals. The staircase towers are independent. The exterior is faced with limestone slabs and insulated with cork. The large windows are calculated to give adequate light over the whole area of the rather deep classrooms.

TECHNICAL SCHOOLS

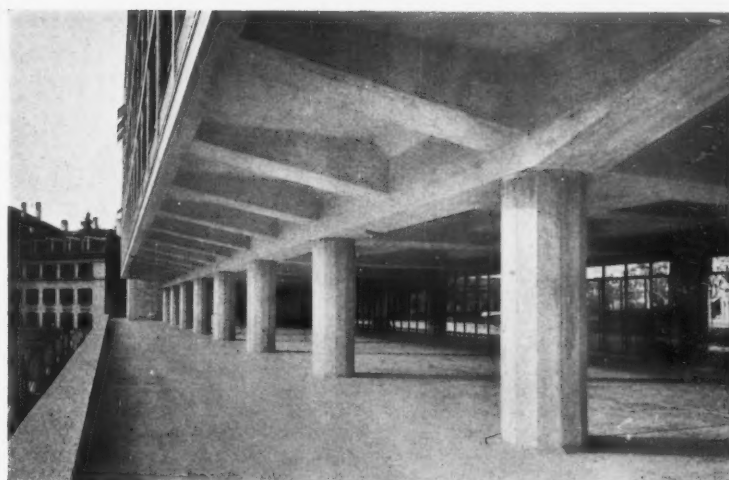
HANS BRECHBÜHLER



6

They have wood frames and slide horizontally so as to avoid obstructing the work-tables beneath them. The single-storey workshops have a steel truss roof with no intermediate supports, incorporating skylights. The walls are completely of glass.

FINISHES Paint is generally applied direct to concrete ceiling slabs and brick filler walls. The ceilings of the fourth floor, beneath the flat roof, and of corridors and lavatories, are lined with insulating slabs. Floors are of oak boards. The built-in furniture and equipment of classrooms is mostly fitted between the structural piers and along the corridor walls. In the latter case it only reaches to door height, allowing borrowed lighting above. Each classroom has one wardrobe cupboard accessible from the corridor only. The furniture is of natural finished wood with table legs, etc. of steel tubing.

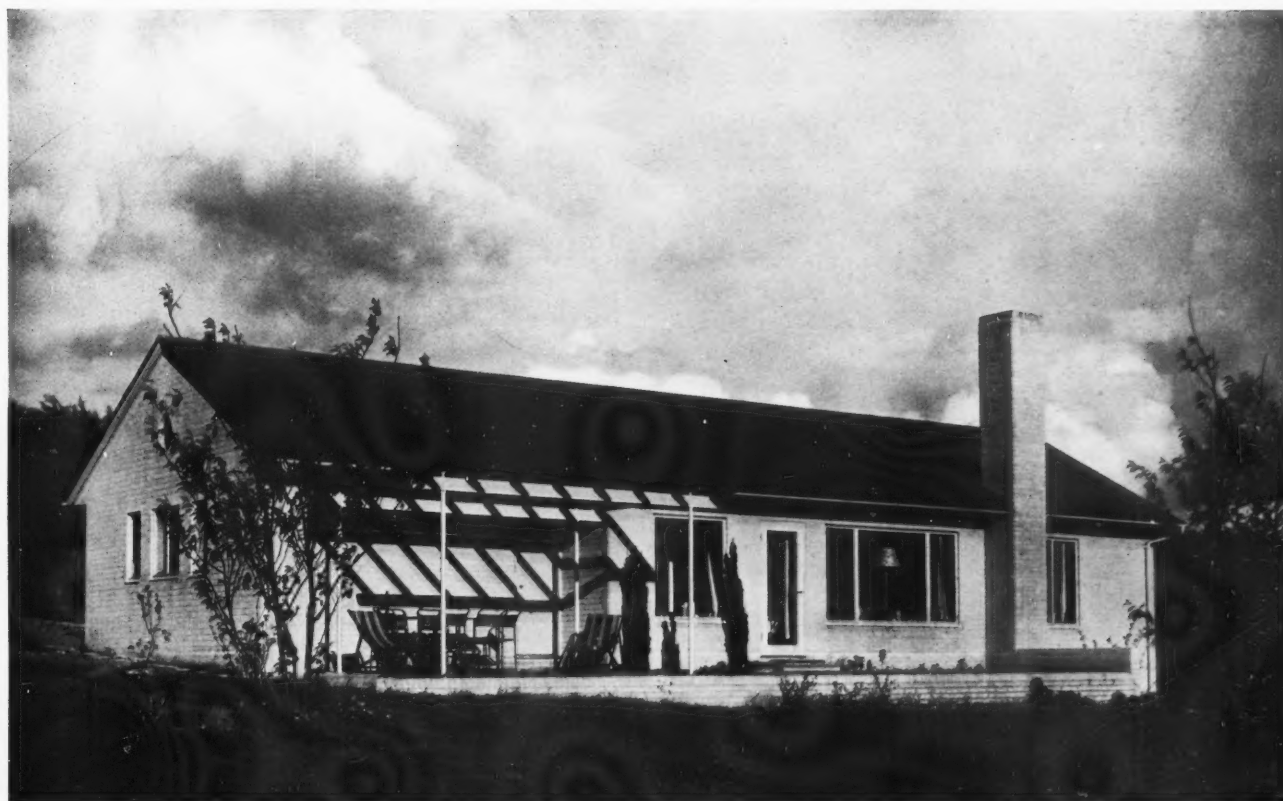


7

6, the roof terrace showing the extent of the view over the town. On the left is part of the shelter that runs along the centre portion of the roof as an extension of the art-room penthouse. 7, the open recreation hall on the ground floor, enclosed within the columns that support the building. In the background is the glass screen wall of the canteen and on the left, at a lower level, can be seen the roofs of the workshop building.

H O U S E S

A . L . O S B O R N E



SITE At Nuffield, on the Berkshire Downs near Wallingford. There are magnificent views and the planning and fenestration are designed to make the most of these. The garden has been laid out by the architect to provide a suitable foreground.

PLANNING As the house is chiefly for week-end use most of the space has been given to the large living-room and terrace, the bedrooms being small with bunk beds. The kitchen is also small but very thoroughly equipped. An unusual feature is the position of the living-room fireplace, which is such that in cold weather the

1, the house from the west, showing the loggia shaded by a projecting pergola of cedar rafters on painted steel supports. The walls are of yellow sand-lime bricks with all external angles bull-nose. The roof is of cedar shingles.

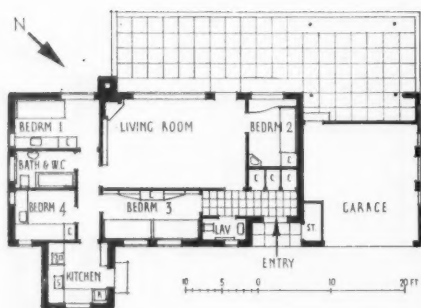
occupants can sit round the fire without having to turn their backs to the windows. There is no chimney breast within the room.

CONSTRUCTION AND FINISHES Walls are all of sand-lime bricks; 11 in. cavity outer walls and 4½ in. partition walls. They are bonded together so that the partition walls serve as cross bracing to the structure. They rest on cork pads on the concrete sub-floor, which is in turn isolated by cork pads from the external walls. Ceiling joists bear on cork pads, the ceilings are of insulating tiles distempered and a slag wool blanket is laid above the ceilings over the whole house. The result of all these precautions is that each room has a good acoustic quality and there is no transmission of sound from one room to another—a rare but important point in so small a house. Internally the walls are of fair-faced brickwork for two walls of each room, the other two being rough plastered or having fitted furniture. Floors are mainly of cork tiles, with travertine in the hall. Window frames and external doors are painted primrose yellow, except the front door which is teak. The eaves soffit has the rafters and battens painted white, leaving the underside of the shingles showing through. Internal doors are either flush or glazed with one sheet of wired glass. An interesting detail in the principal bedroom is a slate dressing-table continuous with the inner cill. Most rooms have built-in electric heaters. Hot water is provided by electric immersion heaters serving several grouped fittings.

COST Is. 5½d. per cubic foot including the built-in furniture and the exceptionally elaborate electrical installations, but not including garden work.



2



GROUND FLOOR PLAN



3

2, the north side of the house, looking through the entrance gates. 3, the living-room, and the door to one of the bedrooms that leads directly from it. The large window on the left, commanding the view, is a specially designed metal one with inside reveals lined with white tiles. Specially shaped tiles form the angles and a trough at the head for curtain rails. This use of tiles, a mixture of brick and plastered walls and the cork floor provide the contrast in materials from which the interior takes its character. 4 and 5, the kitchen, which is small but elaborately fitted with complete built-in equipment. 6, some of the built-in bedroom furniture. Between the two top drawers can be seen the heating switch which in each case has a warning pilot light on the same panel.



4



5

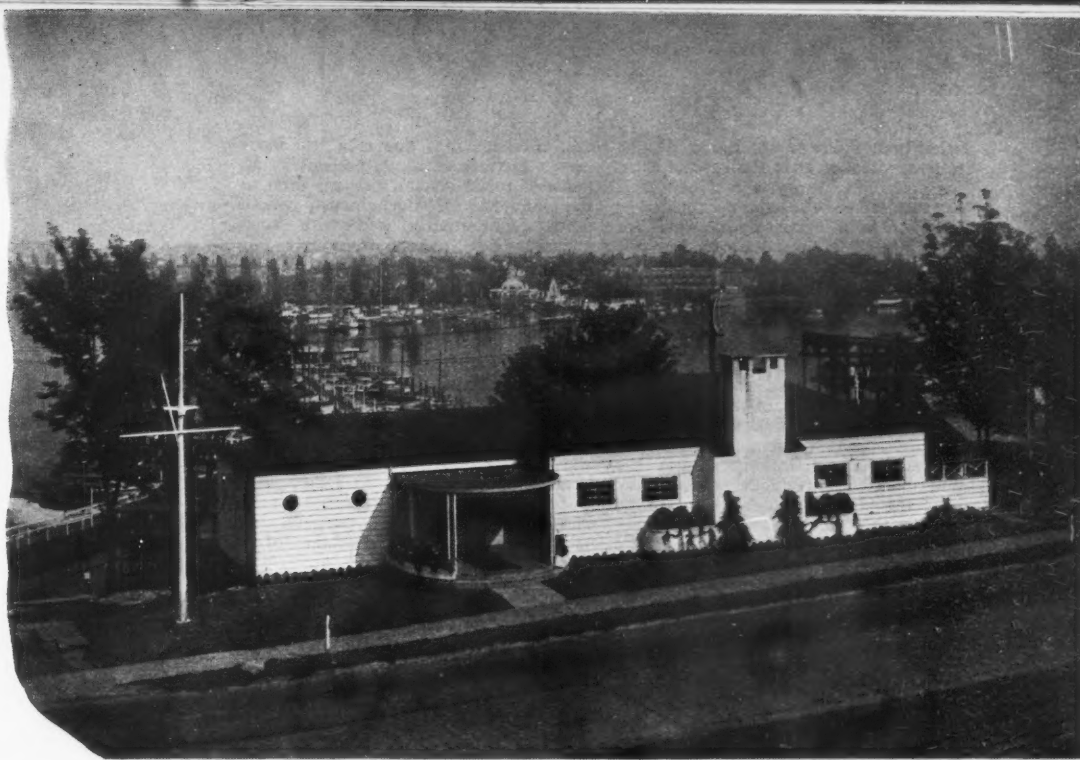


6

H O U S E S

A. L. O S B O R N E

These monthly articles are frankly about aesthetic questions. They are written in the belief that the rational and scientific basis of architecture has now been fully re-established by modern architects, and that matters of external appearance are therefore once more a proper topic of architectural criticism. This month the author, utilizing an illustration in an American magazine that happens to exemplify very clearly one particular tendency in contemporary design, discusses it in relation to the more general question of the contemporary architect's attitude to those ready-made motifs that form so large an element in many designs.



CRITICISM

By James MacQuedy

SMALL YACHT CLUBHOUSE IN SEATTLE

In working out his hillside scheme for The Queen City Yacht Club, Architect GEORGE WELLINGTON STODDARD located all of the main
— later date when over —

I HOPE the architect of the building at the top of this page, which is reproduced from an American magazine,* will forgive me if I use his design to illustrate some points about contemporary architecture that I have in mind. And if most of these points are rather critical, they must not be taken to imply wholesale condemnation of the building, which is one—as a glance at the illustration will show—of considerable suavity and charm.

The particular points it happens to illustrate very clearly are concerned first with the process by which ready-made design motifs are added to the architect's stock-in-trade, and secondly with the more subjective process by which the architect draws upon his stock of motifs when he comes to design a building and, as he designs, unifies them by the impress of his own ideas and preferences. No-one pretends that design is ever such an original process that the architect does not use ready-made motifs to some degree. The degree, of course, varies, as does the spirit in which the motifs are applied—from one of blind faith in well-tried formulae to one of careful and analytical use of short cuts to a given effect. The Royal Academician—jackdaw-like—regards it as of the nature of architecture that whole portions of a building, predigested as it were, should be ready and available for his own use. If his ancestors, with toil and sweat, evolved a number of styles, together with the whole system of subtle formal relationships that the styles consist of, why should he set their labour aside and engage himself in repeating the process every time he designs a building, particularly as, by using the old formulae, he gets the benefit of the sanctity time has given them? The modern architect, on the other hand, distrusts the arbitrariness of the academic method, and particularly the high value it puts on the existence of a precedent.† He also says that many current problems have no

precedent and, moreover, if any kind of universal formula is needed, architects sooner or later must go through the process of evolving a new one, because the existing ones belong to a world far too remote from ours, technically, socially and spiritually.

This is all a familiar story, but what is important about it is that the real distinction is not between formulae and no formulae. For, as a by-product of the modern architect's aesthetic enterprises, there are being evolved a number of design motifs that are just as arbitrary as those pertaining to the historic styles, and even the outright functionalist—if such a person really exists—saddles himself with a stock-in-trade of recognizable motifs simply by his uncompromising acceptance of the results of utilitarianism. The academic method, that is to say, is equally applicable to so-called modern design, and modern architecture is already susceptible to pastiche. The real distinction is that the modern architect only accepts pre-conceived ideas in the shape of a general set of aesthetic ideals. Unlike the man who merely applies the academic method to an up-to-date idiom, he knows that you cannot forestall events by trying to invent a style,* and that the complex nature of the purposes modern buildings have to serve is likely, in any case, to prevent architectural design ever being reduced to the condition of a universally applicable system, as it was, for example, in the eighteenth century. Each problem has to be treated scientifically as an occasion to itself.

The motif, then, remains subservient to the purpose and idea that informs the whole, and this brings me to my particular point: that straightforward pastiche—the design of whole buildings as an exercise in an assumed character—is one thing, and the use of ready-made motifs is another. I do not want to discuss at the moment what the place of pastiche in architecture, if any, should be; but instead to emphasize that pastiche itself involves some wholeness of vision, which the architect must himself bring to his task. For this reason, artificial

though it may be, pastiche does often deserve the name of architecture. It is digested, for better or worse. To be distinguished from it is the tendency which one cannot help thinking is characteristic of too much contemporary architecture, to design buildings simply by accumulating undigested motifs. Many buildings against which this can be alleged have considerable merits, but their contribution to architectural progress is quite negative just because the digestive, or unifying, process has not taken place. They are sterile, being incapable of further development, and therefore of forming the basis of an original architectural idiom.

Let us examine the building illustrated here, motif by motif. First, the weather-boarded timber exterior and the low-pitched roof (though not its hipped ends) represent a modernized version of the so-called "Cape Cod" vernacular, which is allied to the more sophisticated "Colonial" and, like it, is a favourite theme of the "contemporary traditional" architect. The circular windows, possibly, belong to the rather chic Hollywood version of this same style, but the other windows are notable for their *moderne* character, being set as one horizontal strip with the wall spaces between treated as panels, and particularly for their small horizontal glazing-bars—a typical hall mark of the jazz-modern which I discussed last month. The general organization of the façade has that studied asymmetry characteristic of the emancipated 'twenties, but the main block is nevertheless treated as a strongly symmetrical unit on its own, the projecting chimney being centrally placed with two windows either side, in typical "drawing-board" fashion, and its axial function emphasized by the symmetrical pair of flower-troughs. The latter are rather reminiscent of Mallet-Stevens, or other so-called modernists who enthusiastically adopted non-period design after the Paris Exhibition of 1925 without ever being able to discard their *Beaux Arts* habits of thought. The top of the chimney is, perhaps, Mexican Spanish with a touch of Frank Lloyd Wright, and finally the porch is a consciously light graceful

structure such as would not disgrace a Scandinavian pavilion at an international exhibition.

This analysis sounds like damning criticism, but I would repeat that the mere existence of a prototype for every feature is no reflection on the design. One can discover a prototype for nearly everything in architecture, and it is instructive similarly to examine the elements that make up the façade of a really original building and to find that in its details it is not so original that one cannot still speculate as to their ancestry. The point is that instead of being first of all a building with a unity of its own, the kind of building I am criticizing is merely the sum of a number of unrelated motifs. This does not so much reflect on the quality of the design as on the whole mental process by which today we approach our design problems.

Though I have taken an American example, I would not say that this is an exclusively American failing. It is very typical of a widespread style of contemporary French architecture; even more is it typical of Italian official architecture, with its exploitation of the drama inherent in a few evocative symbols; it could be observed again and again in the young modern architecture of South Africa that was illustrated in this magazine last month—though in this case the cause is probably no more profound than a simple eagerness to be in the swim and it is not therefore evidence of a sterile approach to design—and it is certainly typical of this country. On the other hand German and Austrian architecture has never been notable for the same failing; in the Teutonic mind the organization of the whole always seems to remain dominant, and whatever clumsiness it shows it is nearly always infused with a unity and sincerity that its Latin counterpart is apt to lose in its pursuit of the more sophisticated graces.

The more typical architecture of America, one may add in parenthesis, has as a matter of fact just that character of pastiche that I have been defining as something quite different. It has often been said before that the real American genius is for pastiche.

* The Architectural Record for May, 1940.

† Perhaps I should remind readers that in these articles I am not discussing practical matters, so I deliberately do not mention the difficulties that the academic formulae put in the way of solving a problem rationally. Here I am concerned with the approach to design as a matter of aesthetics.

* For an instance of an attempt to do so, see my article last month on the horizontal window-pane.

Richardson, Sullivan and Lloyd Wright are freaks, looked at in the light of their own country's history, a fact of which they themselves—the latter particularly—have not been unconscious. One has only to mention the names of Atwood, Goodhue, Cram, Cass Gilbert and—high priests of the whole cult—McKim, Mead and White to bring to mind the huge extent of the typical American achievement: a masterly adaptation of Florentine Renaissance detail to the temples of big business, of Spanish Mission architecture to country clubs and of that of Roman Baths to railway terminal stations. The immensity—and the genuine quality—of this achievement entirely dwarfs the much-boasted skyscraper, and in any case the latter—witness the prime example, the Tribune Tower in Chicago—has generally done its best to disguise its real personality in some eclectic costume. This is not the place to analyse the fear of inferiority or whatever it was that led American architects to prefer second-rate echoes of European styles to native originality, and I think one can say now that this cultural snobbery is receding steadily into the past. Nevertheless there remains even in these enlightened days an element of pastiche pervading the whole of American

life. Perhaps it is due to a still incoherent mixture of races, perhaps to an unstable social system, perhaps even to the influence of the cinema, which moves continuously and with such apparent ease merely from one *fait accompli* to another. It is seen at its worst in the works of that horrifying American phenomenon the "stylist," who engages himself frantically in predigesting the fruits of design evolution before they are yet ripe for plucking.

However, although it may seem an odd compliment to pay, the great virtue of pastiche is its sincerity—within the limits of its own intentions; whereas the jackdaw principle that I have been discussing fails not only in achievement but in promise just because it is lacking in sincerity of purpose. It is not, in fact, the outcome of a genuine architectural vision. The building I have taken as an example is captioned by *The Architectural Record*, "an interesting example of the transitional style that is increasingly popular in the north-west." Transition implies movement from somewhere to somewhere, but what positive goal can this principle lead to? Only to other designs made up of another set of motifs, and so *ad infinitum*.

that regional differences already show signs of becoming as characteristic as functional similarities.

Mr. Leathart however is too impatient to wait for modern architecture to outgrow such adolescent humours as to provide evidence of the faults for which he condemns it, and concludes his book by offering us a new ready-made style instead. He calls this "the romantic modern style." Its characteristics are that it uses bricks, stone and faience instead of reinforced concrete, and that it "reaffirms the importance of the elevational idea." Its advantages over the, to him, discredited products of modern architecture are that "structural anatomy is not necessarily regarded as the sole basis of expression" and that it is "based on the desire for aesthetic change in expression in which simplification is the moving force." Finally it is "distinguishable by virtue of the fact that the spirit of traditional precept is carried on in a mildly evolutionary manner, which serves as a felicitous background upon which are superimposed the less drastic notions of modernism."

So the fabulous animal turns out after all to be only our old friend the sheep in wolf's clothing, browsing among the "notions" that are all it sees in modern architecture and nibbling at those which seem easily digestible. At the cost of disturbing a pleasant meal one feels compelled to repeat that, without the essential reorientation of mind, simplification and a mildly evolutionary manner only lead back exactly to the starting point.

J. M. RICHARDS

BOOKS

Mildly Evolutionary

STYLE IN ARCHITECTURE. By Julian Leathart. London: Thomas Nelson and Sons. Price 2s. 6d.

IT would be unfair to say that Mr. Leathart had got hold of the wrong end of the stick, which is what one feels compelled to say of so many people who, like him, write books that set out to discover a middle way that acknowledges the coming of a new world without wholly renouncing the old. For events have so often proved that it is possible to go to extraordinary lengths in accepting the superficial results of change while stopping short of the essential reorientation of mind that makes the changes constructive. Indeed, the very gesture of conformity is often but a cunning sortie into enemy territory that not only does not indicate a change of allegiance but is designed to make the final resistance stronger by disarming the enemy. Thus, perversely, does expressed willingness to move with the times become a sign of the dichard, and thus is born the semi-modern architecture, scraped clean of old-fashioned ornament but still the product of an academic attitude of mind, so typical of today.

Instead of saying, "a little progress, but not too much," and thereby making it clear that it is only lip service that is being paid to new architectural ideas, Mr. Leathart begins by accepting with complete frankness the philosophical basis of the new ideas with all their revolutionary implications, and then goes on, as he claims, one stage further to discover an ultimate goal in the form of a new style that will combine the best of either world. The fact that this style is found to resemble to an astonishing degree the compromise architecture I have just referred to, is capable of several explanations: that Mr. Leathart is really one of the compromise architects in a particularly Machiavellian disguise, that he does accept the need for a new orientation in the present but, like Pugin before him, cannot visualize a future that is not spiritually a re-embodiment of the past; or that he genuinely believes that his new style has developed from modern architectural principles,

instead of being an evasion of the problems they pose.

Before enquiring how he reaches his surprising conclusions one should say that his preliminary analysis of the evolution of style and of the changes that contemporary conditions postulate is very thorough, and would be in every way praiseworthy if his arguments were not so involved; if he did not conceal quite simple ideas in philosophical terminology of a rather old-fashioned kind. But after concluding his historical summary he belies his apparent awareness of the nature of modern architecture by the arguments with which he introduces his new style. He claims that this style avoids two fundamental failings which he finds in modern architecture, but neither of which as a matter of fact is inherent in its principles. The first of these is its preoccupation with concrete as a material; the second is its international character. Mr. Leathart has apparently been deceived by the modern architects' enthusiastic acceptance of the structural opportunities offered by reinforced concrete into thinking that the ideas that lie behind modern architecture are somehow dependent on the use of this particular material. He even goes as far as to say, at the beginning of the book, that "for a house of modern character to be built with bricks . . . would not be a true expression of modernist principles." Whereas the modern architect makes a point of being bound by no pre-conceived ideas. Any suitable materials he regards as being available for his use, his "modernist principles" residing in absolute integrity in the use of them and in the very open-mindedness that Mr. Leathart would deny him.

He is less unreasonable when he accuses modern architecture of being inhumanly international, if he is judging it by the superficial resemblance all modern architecture had in the immediate past. But again, he is apparently under the impression that the modern architect is deliberately restricting himself to a predetermined international idiom that means, for example, providing the same glass area in a tropical climate as in a temperate one. There is no need to repeat that the whole *rationale* of modern architecture is opposed to such an idea. Mr. Leathart himself acknowledges that a general movement to relate the means of architecture more closely to the ends must inevitably give modern buildings in different parts of the world a good deal in common; but he cannot be unaware

SHORTER NOTICES

ENGLISH WATER COLOURS. Edited by Laurence Binyon. London: B. T. Batsford. Price 10s. 6d.

IT is notoriously difficult to preserve the subtler qualities of water-colour in mechanical reproduction, but this book of colour plates, printed in Switzerland by an eight-colour process, is remarkably successful. The soft sombre tones of Girtin and Cotman are most faithfully represented, and the more sparkling luminous tones of Turner only slightly less so.

The book reproduces twelve water-colours, two by Girtin, three by Cotman, five by Turner, and one each by Bonington and Constable. They are introduced by a brief essay by Laurence Binyon which is charmingly written and could not be bettered. He succeeds in giving in a small compass a most lucid outline of the development of the English water-colour school during the early years of last century, and one only regrets that the selection of plates is not quite so well balanced as his careful bestowal of laurels. He gives J. R. Cozens and Francis Towne their proper due as founders of the English school of landscape painting, which grew out of the practice of topographical draughtsmanship. If the plates had included one example from the hand of each of these in place of two of the five Turners (four of which are similar Italian subjects of approximately the same period) the whole would have made a delightfully comprehensive series.

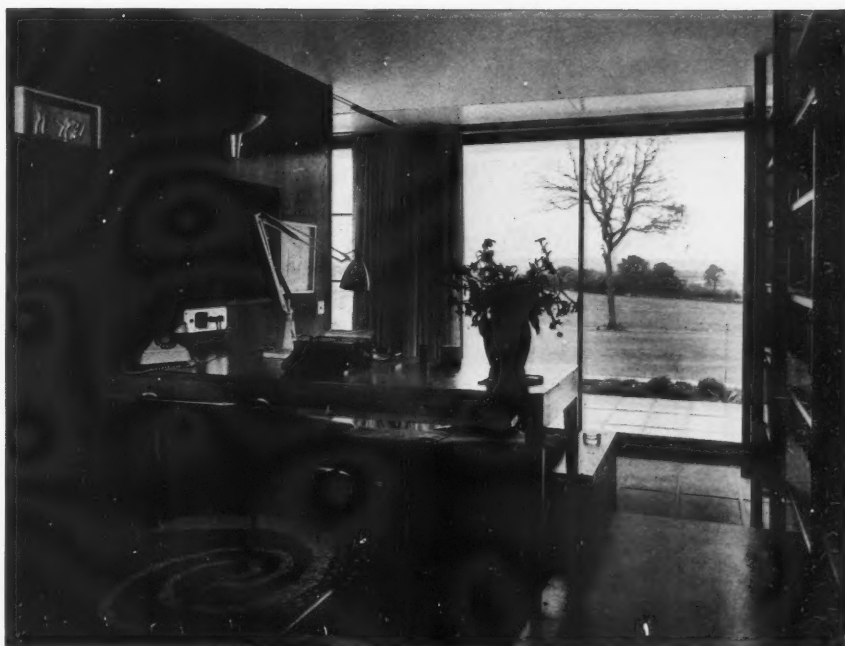
SCIENCE IN WAR. London: Penguin Books. Price 6d.

THIS revealing and stimulating plea by twenty-five anonymous authors urges the proper utilization of scientific knowledge (and the methods of science generally) in all phases of our national life, giving chapter and verse to show something of what science has been permitted to achieve as well as the immense amount it still could do. The valuable thing about the book is that although it calls for the application of scientific methods as an urgent war-time need, the same methods are equally applicable and necessary in peace-time. It is only that in war-time we are liable to suffer more immediate penalties from our habit of inertia and our subservience to vested interests. This is particularly true of the building industry, and a chapter entitled "Building for Victory," although it draws its instances from the present time, presents a very true picture of the way the industry's efficiency as a social tool is frustrated by lack of scientific organization so that even excellently conceived bodies like the Building Research Station are unable to exercise the influence they should. It will be ironical, though in some degree compensatory for the times it is going through, if architecture, essentially a peace-time activity, should be established on the scientific basis it needs as a result of war-time expediency. The best of the other chapters are those on food and medicine, and the masterly introduction and conclusion also deserve special praise.

DECORATION

Two examples of a room planned round a writing desk. 1, the study in a house in Sussex (Serge Chermayeff, architect). The portion of the room containing the desk is on a higher level, so that someone sitting at the desk has a clear view of the landscape beyond the window. On the lower level is a settee with its back to the desk and with a box-like arm (visible in the photograph) which is utilized for storing drawings, having a hinged aperture at the end. To the left of the desk is a wall fitting with tambour shutter for the storage of writing materials. 2, in a house at Clifton (Marcel Breuer and F. R. S. Yorke, architects). A desk, and its storage drawers, are cantilevered out from the wall, leaving free floor-space beneath. More storage is provided on shelves that continue along the wall to the level of the desk top.

On the following pages the fourth of a series of articles which examine various storage needs in the light of the decorative opportunities they provide, deals with this question of the storage of writing materials. Unlike the subjects previously dealt with, the storage of writing materials seldom dominates a whole room, anyway in domestic circumstances. It is responsible, instead, for one specialized piece of furniture, the desk. This is an item of furniture to which designers have paid particular and ingenious attention in recent years. In these articles, as we are concerned with the desk as part of the room, most of the illustrations show the various built-in types, like those on the right, but the desk as a piece of loose furniture has also changed greatly since the cumbersome mahogany pedestal desk of the Victorian office suite. Below is a typical example. It is a tubular desk, in aluminium and oak, from an architect's office in Bucharest; Rudolf Frankel, architect.



Decoration as Storage

The series of articles of which this is the fourth are an attempt to examine the possible decorative use that can be made of one particular function of the interior, namely storage. It will be realized on reflection that it is not far from the truth to say that nearly the whole of interior architecture is concerned with the problem of storage. The designless home is that in which all the owner's possessions are heaped in a litter on the floor; the well-designed home is that in which each object has its appointed place; and the well decorated home is that in which the necessity of storing innumerable pieces of property is made the opportunity for an interesting sequence of shapes and patterns. The bedroom is as much dominated by the wardrobe and chest-of-drawers as by the bed; the

dining-room as much by the china-cabinet as by the table; even the old-fashioned kitchen was dominated by that obsolete piece of furniture the dresser, while the modern kitchen often appears to consist of nothing but an array of cupboards from floor to ceiling and wall to wall.

In these articles, by taking each object that has to be stored in turn, it is hoped to show what decorative effect the ingenuity of architects can extract from an efficient accommodation of it. The heading of the first article was Books; of the second Kitchen Storage; of the third Clothes. This month it is Writing Materials, as they have to be accommodated in the studio or the domestic living-room. The notes are contributed by Frederick Gibberd.

4 STUDIO AND WRITING MATERIALS



3

1 Office and Studio Storage

There are two methods of storing letters and records and both lend themselves to use as a decorative element in interior design: the box file and the filing cabinet. A well-made box file in which the papers are totally enclosed measures 14½ ins. high by 11½ ins. deep by 3 or 3½ ins. wide. The lighter type with open sides and a spring clip to hold the papers is generally 1 in. less in height. These sizes are, of course, for foolscap papers, as office correspondence is never limited to quarto. Box files are kept in standard steel shelf units, on open wood shelves, as in 3, or in cupboards.

For an office of any size papers are most conveniently filed in folders stored vertically in the drawers of a steel filing cabinet. In this way the subject is capable of infinite expansion, and can be divided up at will by cards with index tabs. Furthermore, the file may be used for additional purposes: the two-drawer high units may be used as desk pedestals or ranged side by side to form a table or counter; and the taller types utilized to

3, architect's office in Hampstead (M. J. H. and C. Burney, architects), with drawing tables and plan storage beneath the window and other storage space with shelves for office files continuing the same horizontal line at right angles. One end of the desk-table slides on this wall-fitting in a bronze channel. 4, editorial office in Bentinck Street, London (Stanley Hall and Easton and Robertson, architects); filing cabinets in natural birch covering the whole of one wall. 5, architect's office in Bond Street (Clive Entwistle, architect); a corner of the outer office in which the plan storage is arranged in combination with a secretary's desk: fittings in African cherry wood.



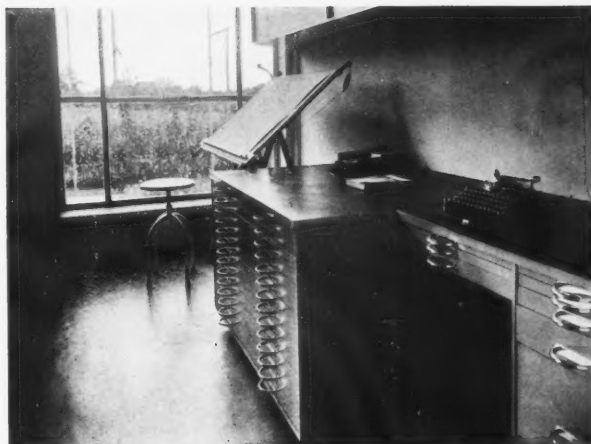
4



5

divide up a large working area into sections for local privacy.

The needs of many businesses give an opportunity for special decorative treatment. For example, the maximum effect has been obtained out of the storage problem in 4 and 7. In the former the drawer unit is treated as a dado, divided into rectangles by incised lines, with wood handles super-imposed so closely that they almost give a texture to the surface. Drawings are best kept flat either in portfolios held in racks, or in plan chests. The most useful size for the latter is the double-elephant which has an inside drawer size of 3 ft. 6½ ins. by 2 ft. 5½ ins. by about 3 ins. deep. The plan chest may be incorporated with the drawing board or writing table as in 3 and 6.



6, combined desk and plan storage occupying one wall of a private office in Belgium (L. H. de Konink, architect). 7, a rich decorative motif discovered in the ends of cylindrical containers for storing drawings; office in Knightsbridge (A. B. Read, architect).



2 Domestic Storage

Domestic writing materials are small in bulk but form a very miscellaneous collection. The chief items and their method of storage are roughly as follows: pens, pencils, etc. in glass or metal tray, not more than 8 ins. long, on top of desk; quarto paper, size 10 ins. by 8 ins., and foolscap paper, size 13 ins. by 8 ins. in drawers, of which the usual size is 14 ins. by 9 ins. by 3 ins. deep. Envelopes, foolscap or quarto, in drawer similar to paper drawer. Smaller envelopes in pigeon holes or in special size drawers. Receipts, bills and unanswered letters may be kept in pigeon holes or drawers or, alternatively, clipped in box files which are stored on shelves or in a cupboard.

All these have to be grouped round a writing table or flap. As the latter is the most important element of the desk, the different types of storage can most easily be classified by considering the treatment and chief methods of supporting this area. The simplest form of desk, and usually a movable one, is, of course, the plain top supported on four legs. Drawers are either slung from the underside or incorporated in the table top itself. In 1 (page 93), a desk of this nature is placed at right angles to the side wall of the room; and although the desk is a quite independent piece of furniture it is related to the hanging cupboard for files and the rest of the room by its form and disposition. Pedestal type desks are shown in 9, which with its thin rectangular top,



8

9, another desk in the same house as in fig. 2 (Marcel Breuer and F. R. S. Yorke, architects); supported at the end on a single leg, emphasizing its axial position under the window. 10, another type of desk (designed by Gordon Russell) with pedestal containing drawer storage.



9

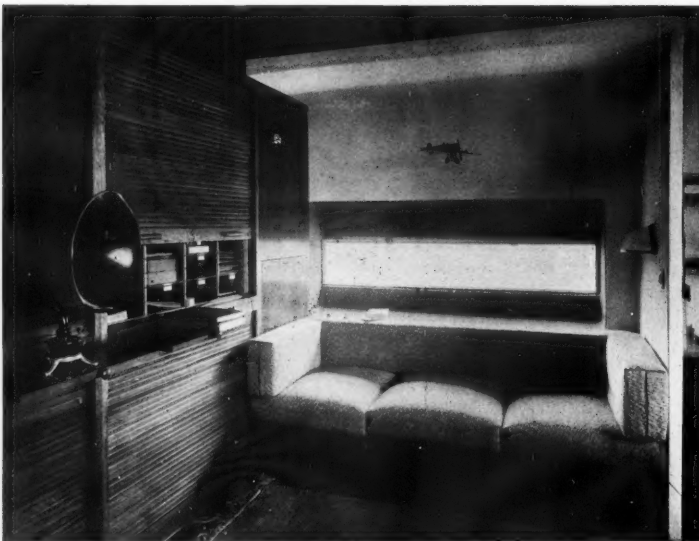


10

plain pedestal of the same width and single round leg, is a very simple example of the type; and 10, which with its curved top gives a more comfortable sense of enclosure when sitting at the desk. When increased storage is required another pedestal may be substituted for the leg. Wide pedestals with a surface continuous with the top give the desk the appearance of being a solid block with a knee hole cut out of it.

A type of desk unit which has developed out of the contemporary practice of building in furniture as an integral part of the room is that in which the top of a wall fitting is projected out to make a shelf wide enough to write on. In 2 (page 93) the writing materials are stored in a unit suspended from the shelf, and the top is extended at an angle which makes a more interesting shape and less obstruction in the room.

If the storage is arranged above writing height the table may be arranged to drop down as a flap, as in 8. The flat type desk is comparable to the old roller top type and has with it the advantage over the ordinary flat top variety that the ink bottle, pens, papers and miscellaneous articles can be shut away by just closing the front.



11, the storage problem providing the dominant motif in the study of a house in Czecho-Slovakia (Ladislav Zak, architect). Filing cupboards and shelves are protected from dust by tambour shutters.

3 Multiple Storage

The most obvious example of an interior requiring multiple storage of writing materials is the Post Office, where a series of desks has to provide space on which to write and to hold the ink wells, pen tray and blotting pad. The writing paper—telegraph forms and so on—are hung in metal containers from the wall above.

The two examples shown here, in each of which the repetition of a series of desks gives its character to the interior, are a development of the continuous Post Office type of writing shelf. In 13, holes recessed in the wall above the desk and drawers below it accommodate papers, and the small glass screen gives privacy. Although each writing place is treated as an individual desk the unit, through the repetition of the same elements and because it is recessed in the wall, reads as a whole.

Storage in 12 is provided by open shelves over the writing top and cupboards underneath. There is little sense of individual privacy in this design through the dominating horizontal line taking the eye from end to end of the fitting. A sense of division is given by the secondary vertical lines but even these are sharply cut cross by the strong horizontal of the shelf.

12, provision for writing and storage in the staff study in a school in Hammersmith (Burnet, Tait and Lorne, architects). Each teacher has a desk with pigeon-holes above and a cupboard beneath. The desks are covered with black linoleum. 13, public writing compartments in the library on board the liner "Orontes" (Brian O'Rourke, architect), with storage space for stationery neatly provided in front of each person.



12



13



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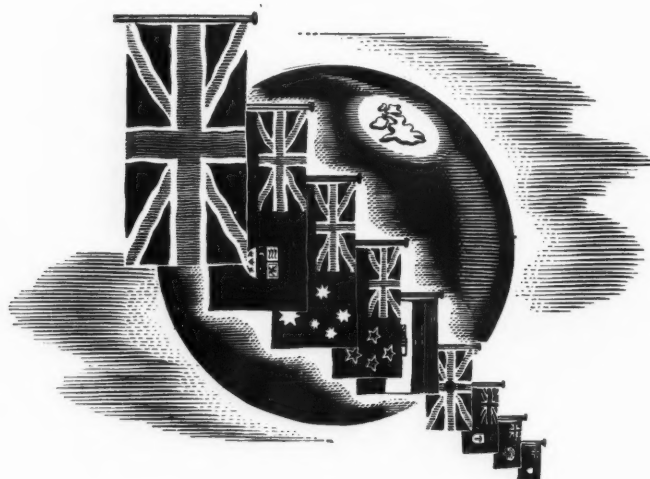
in a position to give authoritative advice on the best use of aluminium alloys in the form of sheet, extruded sections, castings and forgings for recognised applications and for those which have yet to be devised in building design. Our Research and Development Department is in the daily habit of helping architects to make the best use of this versatile metal. This co-operation is cordially extended to you. Consultations are invited.

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A.R.19

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
LONDON, S.W.1

A Poet as Critic

... we went to All Saints', Margaret Street. I wanted to see if my old enthusiasm was a mistake, I recognised certainly more than before Butterfield's want of rhetoric and telling, almost to dullness, and even of enthusiasm and zest in his work—thought the wall-mosaic rather tiresome for instance. Still the rich nobility of the tracery in the open arches of the sanctuary and the touching and passionate curves of the lilyings in the ironwork under the baptistery arch marked his genius to me as before. But my eye was fagged with looking at pictures.

Then I went, with John Lynch, to Butterfield's Church at Babbicombe. It is odd, and the oddness at first sight outweighed the beauty. It is long and low, only a foot or so, just to mark the break, between the nave and aisle (lean-to) roofs (I am nearly sure I remember there being once a wider interval with quarterfoil fanlights); the windows scattered; the steeple rather detached, not, I thought, very impressive, with an odd openwork diaper of freestone over marble pieces on the tower and on the spire scale-work, and with turrets at corners. There is a hood of the same diaper at the east-end gable from the spring by the arch of the east window about upward. Tracery all simple. Inside chancel arch much as at St. Alban's, Holborn—a cross and lozenges in freestone enclosing black-and-white patterned tiles set in chequer and the pattern, more by suggestion than outright, passing from one to the other—something of this sort. I am not so sure of the tiles being square hung—they may have been lozenges. Same sort of thing down the nave above and in the spandrels of the arches—diamonds and tiles but also seven-foiled blind tracery in the spandrels meant to contain mosaic, the foil not symmetrical but somehow thus.—



And in other places were other such openings, whether lights of windows or blind and enclosing mosaics, as in the reredos and each side of the choir, some six-foiled fishes, some otherwise. In two of them he makes use of the split or spiked cusp (I call it)— Much marble is employed—pillars, font, pulpit, choir pavement, reredos, medallions round east window, etc.—and everything very solid and perfect. Pulpit beautiful, like a church or shrine and in three storeys, basement, triforium, etc. Medallions by east window alternate inscapes—all five-spoked wheels or roses—odd. Some of these patterns in the marble, as on the floor and on the stage or block by the font, were large and simple but not very striking. There was a more quarried look about the designing than he commonly has (in the ceiling for instance). The nave roof timbers and choir ceiling were remarkably flattened: I like this. The enrichment grows towards the altar, the choir ceiling having two degrees of it. Rafters there fluted and striped, webs between sown with bigger and smaller stars or rowels on pale sea-green ground. Wrought brass chancel gates with a running inscape not quite satisfying continued by deep marble party-wall (as at Margaret Street) pierced by quarter-foils. Very graceful gas jets from the walls.



GERARD MANLEY HOPKINS

(*Journal*, 1874: Oxford University Press).

Peveler smock mill is to be demolished as it is in a dangerous condition and the cost of repair would be very great, but the Essex County Council have agreed to repair Aythorpe Roding post mill and Upminster mill. It is hoped shortly to publish a list of all the remaining corn mills in the country still worked by wind.

The Georgian Group of the S.P.A.B. announce the formation of a Watch Committee at Richmond, Surrey, and at Poole, Dorset.

THE DESIGN AND INDUSTRIES ASSOCIATION, in its news sheet, refers to an offer made to the Department of Overseas Trade to organize a series of exhibits, each to run for one month, at the New York World's Fair. Their purpose would have been to stimulate export trade in well-designed British goods in America, but the Department, unfortunately, was unable to accept. The D.I.A. now includes in its news sheet a most informative bibliography of articles on relevant subjects that appear in English and foreign periodicals.

THE LONDON SOCIETY, in its *Journal*, reports a meeting at which Mr. Austen Hall spoke on the Royal Academy Committee formed by Sir Edwin Lutyens to study the architectural future of London. "It is proposed," Mr. Hall said, "that the Committee should confine themselves, in the first instance, to projects contained in the Bressey-Lutyens Report, concentrating on those road schemes and public improvements that are most likely to proceed at the end of the war, and to study features in those schemes which are of conspicuous architectural importance. The aim of the Committee will be to produce proposals for the guidance of public authorities when preparing details or drafting the necessary regulations. It is also hoped that such designs may suggest how the authorities can make wider use of the town planning powers that already exist."

The Committee's view of London's civic shortcomings is shown in Mr. Hall's observation that, "what a crop of small things need attention! Why should London sky-lines be hideous with penthouses for lift machinery and tanks, and all the other things that have been forgotten and left lying about on the roof? Why should external iron staircases be allowed on the back and side walls of buildings, which should be designed to contain their own means of escape? Why should any elevation, back or front, be disfigured by pipes which should all be inside, and what a vast amount of trouble and expense would have been saved to householders this winter if such practice had been followed in the past. There can be no half measures about pipes. There must be none visible inside or outside a building—the common practice in America but considered here to be Utopian. Some London byelaws are still adamant on the subject. Backs of buildings! There are no 'backs' in the sense that a back elevation does not matter. Does not someone look out of back windows as well as front windows? Are side elevations in our narrow streets less important than the fronts? No, on the contrary they are often the most prominent features of the street scene, and far more important than the

MARGINALIA

News from the Societies.

The summer is the time of year when many societies issue their annual and quarterly reports, and the following notes, extracted from a number of such reports that have recently come to hand, illustrate the kind of activities that these societies are still managing to pursue in the face of inevitable difficulties.

THE SOCIETY FOR THE

PROTECTION OF ANCIENT BUILDINGS, in its quarterly report, describes a meeting at Oxford in which the work of the Oxford Preservation Trust was explained by Sir Richard Livingstone, President of Corpus Christi. The main work of the Trust is concerned with the acquisition of land on the outskirts of Oxford, but it is also engaged, with the S.P.A.B., on a campaign for the retention of threatened Ship Street, of which the Society has made a

survey. A meeting at York is also reported, at which the problem of redundant church buildings was discussed.

The Windmill Section of the S.P.A.B. reports that Oakington tower mill in Cambridgeshire has been blown up and Friskney Tofts post mill in Lincolnshire has been blown down. The latter was to have been the subject of an appeal for funds, but before this could be launched the mill collapsed after standing for 209 years. Hatfield

WALL PAINTING IN A BRIGHTON CHURCH



The recently completed wall painting by Hans Feibusch in St. Wilfrid's Church, Brighton. It is at the east end of the church, the centre panel above occupying the whole width of the east end and the two side panels continuing the design at right angles. The architect of the church was H. S. Goodhart-Rendel.

so-called 'elevations' in the general view."

THE COUNCIL FOR THE PRESERVATION OF RURAL ENGLAND, in their annual report, refers to their war-time policy: "in the belief that their aims can best be realized by the conservation and development of our agricultural resources and the improvement of the social environment of the rural population, they are resolved to direct their policy both in war and peace towards this objective."

Particularly valuable activities are listed in the report under the heading, "Service Departments and the Acquisition of Land." Action has been taken by the C.P.R.E., in part effectively, in several cases, amongst which are the proposed New Forest and Berkshire bombing ranges.

Another heading is "Trees in War Time." Its importance is self-evident and the C.P.R.E. has been closely in touch with the Forestry Commission on the subject of various specific proposals, among which was that for replanting the Chequers estate. As a result the planting line was altered to meet the Council's objections that famous views would be blotted out.

THE HOUSING CENTRE'S annual report gives details of two successful exhibitions arranged by the Centre in connection with evacuation problems: a Camps Exhibition and one entitled "The Homes They Come From", showing conditions of life in some of our big towns as were brought home to country people by the condition of many of the children they had to receive into their homes. Both these exhibitions have been on tour and have been shown in many parts of the country.

Also reported is the setting up of the 1940 Council to Promote the Planning of Social Environment under the chairmanship of Lord Balfour of Burleigh, which has drawn up a programme of research work.

Finally, the **INDUSTRIAL WELFARE SOCIETY** has issued a booklet entitled "Elements of Industrial Welfare and Personnel Management," the importance of whose subject-matter is made especially vital by the intensification of output to which our war industries are now subject.

Brighton Wall Painting.

Hans Feibusch's painting in St. Wilfrid's church, Brighton, is one of the most ambitious ecclesiastical wall-paintings executed in recent years. When it was completed last month Professor C. H. Reilly wrote a tribute to it in the local paper, from which the following is quoted:

"Standing before it with its clear-cut forms and splendid colour one cannot help being deeply moved. One is conscious of the static grandeur of the composition, with all the interest focused on the Christ Child; of the rhythm of the sloping lines contrasting with the uprights of the pieces of architecture and how these latter help to overcome the difficulty of the corners where the planes of the painting are at right angles to one another; of the romance of the poor wooden roof against such historical forms and against the strength of nature in the cliffs and rocks. . . . All the figures are individually charged with the honesty and directness of emotion of a simpler and finer race of men than ourselves, while the angels, and particularly the one standing before the Holy Family, carry with them a majesty such as winged figures rarely possess. Some of these figures look superhuman in size like this angel and the tallest of the Magi, yet none of them on the wall are more than five foot six inches high. It is this power to convey inherent grandeur and intensity of feeling, which died out in the 17th century with the last of the old masters, such as Tiepolo, graceful and full of rich life as their work was, which makes this painting in a Brighton church so valuable. It is in these days a gift to us all."

CORRESPONDENCE

Wall Textures.

The Editor,

THE ARCHITECTURAL REVIEW.

SIR,

I was very interested in the excellent article in the July issue of THE ARCHITECTURAL REVIEW by Frederick Gibberd on the various methods of building and facing walls in and around Lewes, and I would like to draw attention to another special type of tile hanging also to be found in the town. Examples of this facing material, chiefly used in the Georgian period,

are also to be seen in many other places in the south-eastern counties.

The accompanying sketch gives large scale details of the two typical tiles—one from Seaford, Sussex, and the other from West Wickham, Kent—and shows a usual method of fixing to the wooden battens. Oak pegs were often used for this purpose. The "bond" was sometimes Flemish but header bond was very popular as it only required one size of tile. The tiles used for headers were generally made 9 ins. long and were provided with two holes for fixing. A deep knife-cut on the centre line of the external face of the tile was made before burning, so that a clean edge could be obtained when cut at the site. The edges were bedded in lime mortar and the joints carefully pointed.

The chief difficulty in the use of this material was the treatment at the quoins. When used for facing terraces and street façades this problem was easily overcome at the junctions between the buildings by treating the tile skin as a continuous wall. The end angles could be, and often were, made to butt against walls built of solid brickwork. Generally the only clue

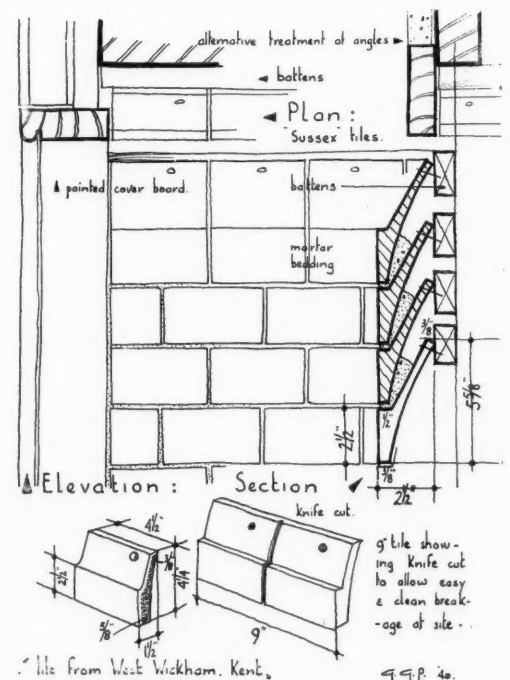
to the deceitfulness of such apparently solid brick façades is a slight undulation in the surface due to movement in the wood framing. This is similar in effect to the sagging of old tile roofs, but of course not nearly so pronounced. Many of the two and three storey brick oriel windows of this district and period will seem less constructionally insecure when it is known that the "brickwork" is only $\frac{1}{8}$ in. thick. The quoins of free standing buildings are usually masked by a painted wood cover board.

The object of these tiles seems to have been to make timber framed buildings appear to be constructed of solid brickwork. They share the advantages of tile hanging as regards lightness and minimum cost of upkeep. It is a pity that such an ingenious device was never truthfully used as a skin, but always with the intent to deceive. They enabled those who could not afford the real thing to share the social distinction which the possession of solid brick walls conferred on their owners.

Yours, etc.,

GEORGE G. PACE.

East Croydon.



The method of wall-facing, characteristic of the Lewes district, referred to in the accompanying letter. Specially shaped tiles, with their edges butted, are set in mortar to form a flush surface resembling bonded brickwork.

RESPONSIBILITY FOR GLASS

We record below the results of tests recently undertaken and arranged by our Research Department on unprotected glass. The types of glass used ranged from 24 oz. sheet glass to "Armourlight" Toughened Lenses and Insulight Glass Bricks. The reactions of the various types under the tests make interesting reading, and form, we believe, a useful contribution to the technical data available on Glass and A.R.P. (Our last report, published in this journal in August, 1940, page xvii, was on *Tests on Protective Measures for Windows*).

RESULTS OF TESTS ON UNPROTECTED GLASS

TYPE OF GLASS AND SIZE OF PANE	Explosion at 50 ft. equivalent to a 500 lb. H.E. bomb at 200-250 yards	Explosion at 40 ft. equivalent to a 500 lb. H.E. bomb at 160-200 yards	Explosion at 30 ft. equivalent to a 500 lb. H.E. bomb at 120-150 yards	Explosion at 20 ft. equivalent to a 500 lb. H.E. bomb at 80-100 yards	Explosion at 10 ft. equivalent to a 500 lb. H.E. bomb at 40-50 yards	REMARKS
24 oz. SHEET GLASS 15" x 15"	Completely shattered	—	—	—	—	Fragments dislodged & projected towards explosion.
32 oz. SHEET GLASS 22" x 18"	Undamaged	Undamaged	Undamaged	Undamaged	Glass shattered	Fragments dislodged & projected towards explosion.
1" ROUGH CAST DOUBLE ROLLED 15" x 15"	do.	do.	do.	do.	do.	Some fragments dislodged.
WIRED GLASS 13 panes 22" x 18"	do.	do.	do.	3 panes cracked	Remaining 10 panes cracked	Although cracked the wire reinforcement held the pieces together as a complete panel which remained rigid in the frame.
WIRED GLASS 19 panes 15" x 15"	do.	do.	do.	5 panes cracked	Remaining 14 panes cracked	
WIRED GLASS 84" x 24"	Cracked	No change	No change	No change	Cracked considerably	The panel was badly buckled by the blast: it had forced the lead cover strips and slid down the glazing bars mainly in large pieces.
1" "ARMOURPLATE" 15" x 15"	Undamaged	Undamaged	Undamaged	Undamaged	Undamaged	No damage at all.

TYPE OF GLASS AND SIZE OF PANE	Explosion at 70 ft. equivalent to a 500 lb. H.E. bomb at 280-350 yards	Explosion at 60 ft. equivalent to a 500 lb. H.E. bomb at 240-300 yards	Explosion at 50 ft. equivalent to a 500 lb. H.E. bomb at 200-250 yards	Explosion at 40 ft. equivalent to a 500 lb. H.E. bomb at 160-200 yards	Explosion at 30 ft. equivalent to a 500 lb. H.E. bomb at 120-150 yards	REMARKS
1" POLISHED PLATE GLASS 84" x 84"	Undamaged	Undamaged	Glass shattered	—	—	Fairly large fragments. They were only projected a few feet and fell both in front and in rear of window opening.
1" POLISHED PLATE GLASS 84" x 84"	do.	do.	Undamaged	Undamaged	Completely shattered	Some fragments were projected 12 feet in front and others to a distance of 6 feet behind window opening.

"ARMOURLIGHT" TOUGHENED LENSES

THERMAL SHOCK	Type T.401, T.601, T.702 were tested and found to provide complete protection against incendiary bombs either of the kilo-electron or thermite type burning on the surface of the lens.
IMPACT	A double glazed unit of "ARMOURLIGHT" Toughened Lenses provides protection against a .45 revolver bullet fired at a distance of 5 yds. The top lens was pierced by the bullet but the lower lens was undamaged.
BLAST	A panel 4' 6" x 3' of T.702 "ARMOURLIGHT" Toughened Lenses withstood the effects of blast from a 500 lb. H.E. bomb detonated at a distance of 50 ft.

INSULIGHT GLASS BRICKS

FIRE RESISTANCE	Tested at the Building Research Station, Elstree, and certified as having a Grade D fire resistance.
BLAST	A panel 4' 6" x 3' of Insulight Glass Bricks withstood the effects of blast from a 500 lb. H.E. bomb detonated at a distance of 50 ft.

★ Film records of various tests can be seen by appointment at our London showrooms, 63 Piccadilly, W.1 (phone Regent 4281). Our Technical Department, at St. Helens, Lancashire, is always available for consultation on the use of glass in A.R.P. and in any form of structural work.

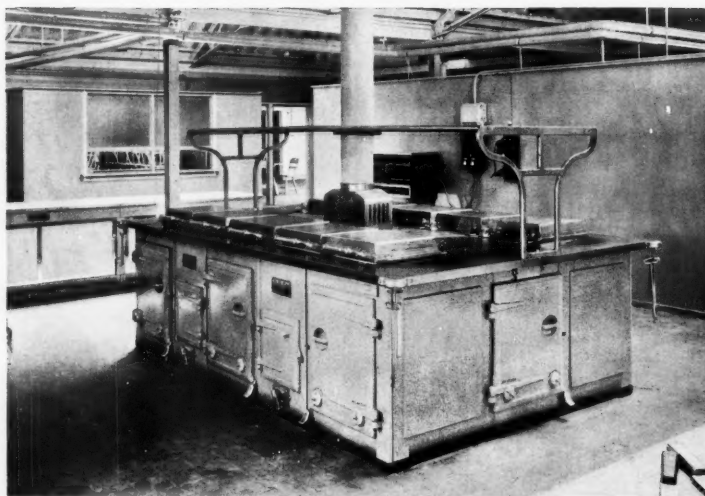
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Heat Storage Cookers.

From the Esse Cooker Company we receive some interesting particulars of their present activities. In the immediate pre-war years the heat storage cooker was increasingly being installed in kitchens large and small, in private houses and in schools, hospitals, clubs and municipal buildings. Today in military camps, hospitals and munition factories the heat storage cooker is proving its efficiency—its fuel costs are exceptionally low and the storage space required by anthracite is considerably less than for other grades of coal, an important factor since it makes for simpler delivery at a time when petrol rationing prevails.

The photograph shows the main kitchen in a recently completed Canadian Red Cross Hospital. The equipment consists of a central group of Esse Major cookers, known as the "Rockwell Group," giving a total heat accumulator surface of 20·88 sq. ft. (194 in. by 15½ in.) and thus providing a most adequate boiling area for fast cooking.

The kitchen is equipped to cater for 750 patients, and the cookers comprise of six roasting ovens (20 in. wide by 23¾ in. high by 22 in. deep), two slow cooking ovens and two hot closets for keeping food hot and the heating of plates and dishes; separate Esse equipment in the kitchen also includes steam-jacketed boiling pans and steam-heated cabinets. Catalogues and brochures are available giving all details of prices, dimensions, etc.



Canadian Red Cross Hospital Kitchen—somewhere in England—with cooking facilities for 750 patients.

(The Esse Cooker Company, Ltd., Bonnybridge, Scotland.)

Cerrux Window Protection.

Cellon, Ltd., of Kingston-on-Thames, have evolved a method of glass window protection which is claimed to be a considerable improvement on the ordinary varnishing processes.

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tape is first applied horizontally, vertically or diagonally with an inch space between the bands (the tape must be applied alternatively crossways), then two coats minimum of Cerrux shatter-resisting varnish should be either sprayed or brushed over the whole window.

This method of glass protection has passed the current tests of the Building Research Station and all materials and full instructions may be had from Cellon, Ltd.

A Reminder •



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A.B.I

The Buildings Illustrated

House at Highgate.

Architects : Tayler & Green.

The general contractor was W. M. Glendinning. Among the sub-contractors were the following : Dorman Long & Co. Ltd. (structural steelwork (suppliers)), Huntley and Sparks Ltd. (insulation—Cabot's quilt between double-joisted floors), Marston Valley Brick Co. Ltd. (Marston bespres flettons), Beechcroft (partitions—Beechcroft clinker blocks), Kerner Greenwood & Co. Ltd. (damp-proofing—"Pudlo" to inside of basement walls), Carter & Co. Ltd. (tiles—internal and external frost proof tiles in porch), Tentest Fibre Board Co. Ltd. (roofing, insulation, Tentest fibre board), Frazzi Ltd. (Paropa roofing covering), E. A. Higginson & Co. Ltd. (all joinery and built-in fittings), Venesta Ltd. (doors, veneers), Everwear Floor Co. (plywood floor in studio), Dryad Metalworks Ltd. (special fittings and door furniture, hat and coat rack in hall), Kiefer, Zurich (window furniture, special wooden windows), Evered & Co. Ltd. (ventilators), Fredk. Braby & Co. Ltd. (weatherings, ventilators, flashings, etc.), Ideal Boilers and Radiators Ltd. (taps), Shanks & Co. Ltd., McAlpine & Co., Ltd. (anti-siphonage traps), Kingsmill Metal Co. (staircase handrail in metal, cellulosed), Holroyd

(Glassware & Lighting) Ltd. (electrical fittings), Radio Furniture and Fittings Ltd. (anti-static aerial), Wardle Engineering Co. Ltd. (thermostats, Maxheat electric tubular heaters), Bratt Colbran Ltd. (special illuminated fire), Santon Ltd. (electric thermal storage water heaters), Pilkington Bros. Ltd. (glass), H. & F. Badcock Ltd. (internal and external plaster), Cement Marketing Co. Ltd. (special external rendering in 2 colours—"Cullamix" Tyrolean spray finish), Paripan Ltd. (Paint), Walpamur Ltd. (distemper), Gordon Russell Ltd. (wallpapers and curtains), Kelvinator Ltd. (refrigeration), Waring & Gillow Ltd. (furniture, fabrics, carpets, door mats, chintz blinds in kitchen and bathroom), Edinburgh Weavers Ltd. (curtains), Betula Ltd. (furniture), Turnbull and Stockdale Ltd. (curtains), George Johnson Ltd. (hand power lifts), A. Johnson & Co. Ltd. (Savestane sinks), Kandya Ltd. (glass cereal racks), Hotpoint Electric Appliance Co. Ltd. (cooker), Garden Makers Ltd. (garden layout), John Russell Ltd. (plants), Noelite Ltd. (garden paving), Frazzi Ltd. (paving in front of house), Gent & Co. Ltd. (kitchen bell (buzzer) and indicator), Heal & Son Ltd. (garden umbrella), Murphy Radio Ltd. (Radio).

House at Nuffield.

Architect : A. L. Osborne.

The general contractor was Ernest

Callis. Among the sub-contractors were the following : Sussex Electricity Co. Ltd. (electric wiring and equipment), Shanks & Co. Ltd. (sanitary fittings), Carter & Co. Ltd. (tiles to windows, etc.), Cork Insulation Co. Ltd. (flooring, insulation), Thermacoust Products Ltd. (ceilings), James Gibbons Ltd. (door furniture and locks), Henry Hope and Sons Ltd. (windows), Knap Hill Nursery Ltd. (garden planting and shrubs), Edward Stanford Ltd. (maps), Stonehenge Brick Co. Ltd. (bricks), Jones' Slagwool Blanket Co. (insulation), Art Pavements and Decorations Ltd. (travertine paving).

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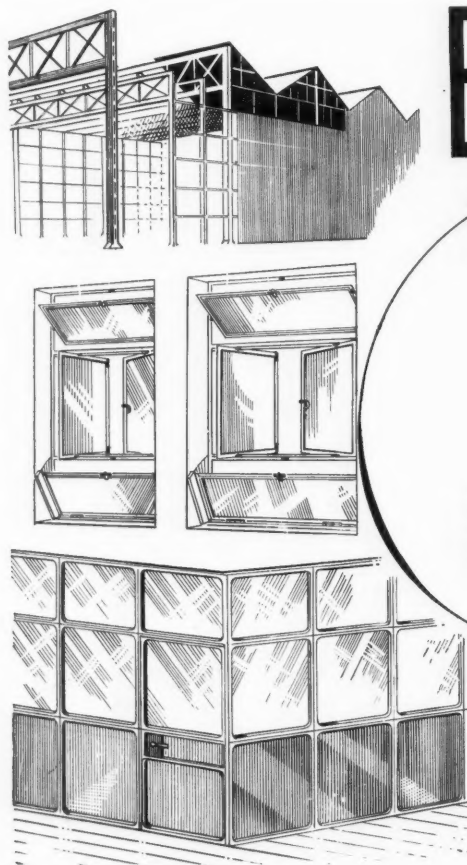
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Session commences 17th September, 1940.

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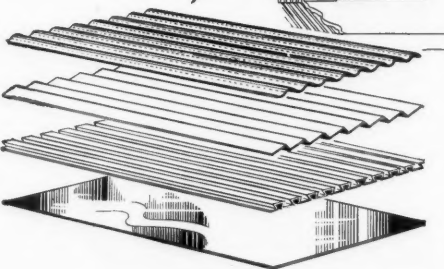
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